Demand Reduction Attachments for Aberdeen Proving Grounds

Aberdeen, Maryland

Final Submission

Performed by

Entech Engineering, Inc.
Reading, Pennsylvania

June 1996

DEPARTMENT OF THE ARMY
CONSTRUCTION ENGINEERING RESEARCH LABORATORIES, CORPS OF ENGINEERS
P.O. BOX 9005
CHAMPAIGN, ILLINOIS 61826-9005

REPLY TO
ATTENTION OF: TR-I Library

17 Sep 1997

Based on SOW, these Energy Studies are unclassified/unlimited.
Distribution A. Approved for public release.

Marie Wakefield,
Librarian Engineering

ABERDEEN PROVING GROUNDS
DEMAND REDUCTION ANALYSIS

TABLE OF CONTENTS

ATTACHMENT 8.1
ELECTRIC RATES AND RIDERS

PRIMARY VOLTAGE SERVICE

SCHEDULE P

Availability: For use for all purposes, for demands of 1,500 kW or more. (Service hereunder will be continued for customers with demands of less than 1,500 kW, who originally took Schedule T service prior to February 11, 1982, but not to their successors or assigns).

Delivery Voltage: Three-phase, 13,200 Volts and over as specified by Company.

Monthly Net Rates:

Customer Charge: $750 per month plus.

	Summer For June 1 through September 30	Non-Summer For October 1 through May 31
Demand Charges:		
Production and Transmission		
For each kW of billing demand occurring during the On-Peak rating period.	$12.09 per kW	$5.99 per kW
Distribution		
For the maximum kW of billing demand recorded during any rating period.	$ 2.33 per kW	$2.33 per kW
Energy Charges:		
On-Peak	3.790 cents per kWh	2.257 cents per kwh
Intermediate-Peak	2.742 cents " "	2.037 cents " "
Off-Peak	1.468 cents " "	1.174 cents " "

Fuel Rate: Applies to all electricity supplied. (Rider 1)

Minimum Charge: Customer Charge plus the Demand Charges.

Transmission Service: For Customers served at 115 kV and above, the Distribution Demand Charge does not apply.

Rating Periods:

Summer

On-Peak - Between the hours of 10 am and 8 pm on weekdays, excluding the National holidays listed below.

Intermediate-Peak - Between the hours of 7 am and 10 am, and the hours of 8 pm and 11 pm on weekdays excluding the National holidays listed below.

Off-Peak - All times other than those defined for the On-Peak and Intermediate-Peak rating periods.

(Continued on Next Page)

Non-Summer

On-Peak - Between the hours of 7 am and 11 am, and the hours of 5 pm and 9 pm on weekdays, excluding the National holidays listed below.

Intermediate-Peak - Between the hours of 11 am and 5 pm on weekdays, excluding the National holidays listed below.

Off-Peak - All times other than those defined for the On-Peak and Intermediate-Peak rating periods.

Holidays

All hours on Saturdays and Sundays and the following National holidays are Off-Peak: New Year's Day, President's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving, Christmas, and the Monday following such of these as fall on Sunday.

Billing Demand: The maximum 30-minute measured demand, adjusted to the nearest whole kW, in each applicable rating period for the month is the Billing Demand. Measured Demand is the Customer's rate of use of electric energy as shown by or computed from readings of the Company demand meter, but in no case less than 1,500 kW. (For customers with demands of less than 1,500 kW originally taking service prior to February 11, 1982, the minimum Billing Demand is 200 kW).

During the first 6 months of service under Schedule P, the Billing demand may be less than 1,500 kW but in that event is not subject to decrease. When it reaches 1,500 kW, this provision no longer applies.

Customers who participate in Rider 3 - Conservation Surcharge conservation methods may have their minimum Billing Demand set below 1,500 kW if the Surchargeable conservation methods are responsible for bringing the demand below the Schedule minimum.

Late Payment Charge: Standard. (Sec. 7.4)

Payment Terms: Standard. (Sec. 7)

Term of Contract: Five years and thereafter until terminated by at least 30 days' notice from the Customer.

Subject to Riders applicable as listed below:

1. Fuel Rate
2. Purchased Capacity Surcharge
3. Conservation Surcharge
5. Controlled Air Conditioning Service
7. Economic Development
11. Measured Demand
12. Arc Furnace Service
13. Change of Schedule
14. Emergency Generation
15. Temperature Controlled Service
16. Curtailable Service
17. Best Efforts Service
19. Demonstration and Trial Installations
21. Billing in Event of Service Interruption

16. Curtailable Service

Monthly net rates for service supplied under Schedule GL or P (the Controlling Schedule) are subject to adjustment for a Customer who agrees to the Availability conditions stated below.

Availability Conditions:

(A) The Customer agrees to reduce demand requirements to the Contract Demand, upon advance notice of no less than 2 hours for Rate Option 1, or 15 minutes for Rate Option 2, by the Company. The Contract Demand is at least 100 kW for Rate Option 1, or at least 5000 kW for Rate Option 2, below the Customer's maximum Measured Demand. The effect of the Customer's curtailment shall be a net reduction of load on the Company's system. During periods of curtailment, the work performed by the curtailed load shall not be transferred to any other electric service provided by the Company.

(B) The Contract Demand to which the Customer agrees to reduce demand requirements during periods of curtailment is stated separately for 1) the months of June to September, inclusive (Summer), and 2) the months of October to May, inclusive (Non-Summer). The Summer and Non-Summer Contract Demands are specified to the Company in writing by the Customer and are not increased without 2 years prior written notice, except as noted under item (C). The minimum demand reduction is applicable to both the Summer and Non-Summer periods.

(C) The Summer and Non-Summer Contract Demands may be increased to the extent that an increase in the Customer's connected load increases the Customer's maximum Measured Demand in the respective Summer and Non-Summer periods. Notice of such an increase in Contract Demand, or any decrease, must be specified to the Company in writing at least 6 months prior to any change in the Contract Demand for billing purposes, and is subject to the Company's approval.

(D) Service hereunder is subject to curtailment once each calendar day, at the option of the Company, but the Customer will not be curtailed more than 10 hours in one calendar day, nor more than 12 days from June 1 to May 31, inclusive. Curtailments resulting from orders or requests of Federal, State or local government are not considered as curtailment under the provisions of this Rider and will not reduce the number of annual curtailments available to the Company.

(E) At the Customer's request, the Company furnishes, installs and maintains additional, Company-approved facilities at the meter location to permit Customer verification of compliance with the curtailment notice. The Company may contribute up to $25 for each kW of expected load curtailment. Costs in excess of the Company's contribution are paid by the Customer.

(F) The Initial Term of Contract for service provided under this Rider is 2 years and, thereafter, until terminated by at least 2 years written notice from either party to the other. This Rider is not available to a Customer selling capacity to the Company under the provisions of Rider 20 Electricity Purchased by the Company.

Rate Adjustment Options:

Rates and terms for a Customer receiving service under this Rider are those contained in the Controlling Schedule, except as modified below.

Option 1 (Schedules GL or P)

The monthly credit for the Summer period is determined by applying a Demand Charge Credit of $7.87 per kW per month to the excess of the maximum Measured Demand used for Production and Transmission billing purposes for the billing month over the Customer's Summer Contract Demand. The monthly credit for the Non-Summer period is determined by applying a Demand Charge Credit of $2.04 per kW per month to the excess of the maximum Measured Demand used for Production and Transmission billing purposes for the billing month over the Customer's Non-Summer Contract Demand.

(Continued on Next Page)

DEMAND FREE HOURS. #295-4834

Where service is supplied under Schedule GL, the Customer Charge is increased to $145 per month and is the Minimum Charge.

Should the Customer fail to reduce his Measured Demand during any curtailment period at least to the specified Contract Demand, the bill for service in the monthly period is computed under the applicable provisions of Schedule GL or P, except as otherwise noted below, and is subject to the net adjustment resulting from (1) the total credit for demand reduction computed in paragraph one of this option and (2) a charge applicable to each curtailment period of $47.80 per kW applied to the excess of the maximum Measured Demand occurring during the curtailment period over the Contract Demand. Where failure to curtail to the Contract Demand occurs during the first hour curtailment, the maximum charge under item (2) is equal to the credit determined in paragraph one of this option. In the event charges are incurred under item (2), they may be reduced based upon the Customer's proportion of the number of successful compliances over the current and two prior requests by the Company for curtailment.

Option 2 (Schedule P only)

	Summer For June 1 through September 30	Non-Summer For October 1 through May 31
Demand Charges:		
Production and Transmission: For each kW of billing demand occurring during the On-Peak rating period	$3.95 per kW	$1.91 per kW
Distribution:	Standard	Standard
Energy Charges:		
Super-Peak: Energy above Contract Demand	69.903 cents per kWh	69.903 cents per kWh
Energy below Contract Demand	3.790 cents per kWh	2.257 cents per kWh
On-Peak	2.742 cents per kWh	2.037 cents per kWh
Intermediate- and Off-Peak	Standard	Standard

Super-Peak: Up to a maximum of 216 hours for an annual period beginning June 1 may be designated as Super-Peak hours. The Company will notify the Customer at least 15 minutes prior to the start of a designated Super-Peak period.

Billing Demand: Standard, except that Measured Demand occurring during an hour designated as Super-Peak will not be used for billing purposes, unless the hour is part of a period of curtailment. Measured Demand in excess of the specified Contract Demand during a period of curtailment is subject to an additional charge of $5 per kW per hour.

(This Option is experimental and limited to 3 participants.)

Options 1 and 2

For a Customer taking service hereunder, the Company may at its option designate up to 4 weekdays per week as "demand free", but with such days subject to the curtailment provisions noted above. The designation, if any, will be made by 4 p.m. of the weekday immediately preceding the "demand free" day. In addition, the Company may at its option designate up to 4 on-peak hours as "demand free". The designation, if any, will be made by 4 p.m. on the preceding Wednesday for the five weekdays beginning Monday. The demand created by the Customer on a designated day or hour will not be used for billing purposes. The Company will not designate a day or hour as "demand free" unless 1) for that period, the anticipated average marginal energy cost during the demand billing period is less than the Energy Charge in the applicable rate schedule for the same period plus the Fuel Rate, and 2) the local distribution system has existing capacity sufficient to meet the expected load.

14. Emergency Generation

Where a Customer receiving service under Schedules GL or P has installed emergency generation and agrees to provide 100 kW or more of such generation (Contract Capacity) during specified periods in accordance with the conditions stated below, the following credits are applied to the monthly service bill:

$7.87 during the billing months of June through September, inclusive, for each kW of Summer Contract Capacity and

$2.04 during the billing months of October through May, inclusive, for each kW of Non-Summer Contract Capacity.

Special Provisions:

1. The Contract Capacity is the total capacity in kW to be operated by the Customer. The Customer shall specify in writing both a Summer and Non-Summer Contract Capacity. In no event shall the Non-Summer Contract Capacity exceed the Summer Contract Capacity.
2. Requests for an increase in Contract Capacity must be specified in writing at least 6 months prior to any change in the Contract Capacity for billing purposes, and is subject to the Company's approval. It may not be decreased nor contract terminated until the expiration of the Term of Contract stated below.
3. The Customer agrees to limit operation of the customer-owned generation to periods of electrical emergency on the Customer's system, normal standby generation requirements, or, as otherwise directed by the Company upon two hours advance notice.
4. The Company may call upon the Customer to operate the generation facility at the Contract Capacity once each calendar day for a maximum of 10 hours, but not more than 12 days from June 1 through May 31, inclusive.
5. In the event that the Customer fails to generate at the Contract Capacity for the full duration of any generation period directed by the Company in accordance with Item 4 above, the charge derived from the following formula is added to and becomes a part of the regular service bill. Where AG is less than (C x Hr),

$$\left(1 - \frac{AG}{(C \times Hr)}\right) \times (C \times \$47.80)$$

where AG = Actual kilowatt-hours of customer generation during periods designated by the Company for the billing month,

C = Capacity in kW contracted to be provided during periods designated by the Company, and

Hr = Number of hours (to the nearest quarter-hour) designated by the Company during the billing month for Customer generation.

In the event charges are incurred under this provision, they may be reduced based upon the Customer's proportion of the number of successful compliances over the current and two prior requests by the Company.

6. Metering equipment suitable to the Company for measuring the output of the Customer's generator shall be installed by the Company at its expense. The provisions of Section 3.9 - Parallel Operation by the Customer, Section 4 - Customer's Installation, Section 5 - Company's Installation and Section 6 - Location of Metering Equipment shall apply. The Company may contribute up to $25 for each kW of expected emergency generation toward the costs resulting from the application of these provisions. Costs in excess of the Company's contribution are paid by the Customer.

(Continued on Next Page)

7. All generation from the Customer's facility shall be considered self-generation and shall represent a net reduction of load on the Company's system. In no event shall payments other than those stated herein be paid by the Company for either energy or capacity.
8. As used herein, "emergency generation" means customer-owned generation facilities which are installed and operated in accordance with Article 700 of the National Electric Code.
9. The Initial Term of Contract for service provided under this Rider is 2 years and, thereafter, until terminated by at least 2 years written notice from either party to the other.
10. This Rider is not available to a Customer selling capacity to the Company under the provisions of Rider 20 - Electricity Purchased by the Company.

ATTACHMENT 8.2
BG & E SUBSTATION REQUIREMENTS

APPROVAL:

MES
11/9/92
12/11/93

CUSTOMER SUBSTATION REQUIREMENTS
13.2 kV AND 33 kV PRIMARY SERVICE
METAL-ENCLOSED SERVICE ENTRANCE SWITCHGEAR

CONTENTS

THE CURRENT REVISION DATE IS SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY

o

CUSTOMER SUBSTATION REQUIREMENTS
13.2 kV AND 33 kV PRIMARY SERVICE
METAL-ENCLOSED SERVICE ENTRANCE SWITCHGEAR

1. **GENERAL**

1.1 This Guide Specification describe metal-enclosed switchgear assembly for application as Customer-Owned 13.2kV or 33kV service entrance equipment for installation on the Baltimore Gas and Electric Company (BG&E) system. The entire service entrance switchgear assembly is subject to approval by BG&E.

1.1.1 Specific installations may require modifications to these specifications. They shall be reviewed with BG&E prior to designing the customer substation and will require acceptance by BG&E.

1.1.2 Contract drawings and specifications covering the customer substation installation, including the service entrance switchgear, shall be submitted to BG&E for review and approval prior to their release for contractual bidding.

o

1.2 Three sets of manufacturer's shop drawings for the entire service entrance switchgear assembly shall be submitted to BG&E for review and approval prior to fabrication of the switchgear. This review and approval may take up to six weeks and could affect the service date if complete shop drawings are not submitted to BG&E in a timely fashion.

THE CURRENT REVISION DATE IS SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY

1.3 The switchgear assembly shall meet all applicable requirements of ANSI, IEEE, NEMA, OSHA, NEC, and BG&E. The requirements of BG&E are in addition to and in no way a waiver of the applicable standards and codes.

1.4 The switchgear assembly shall consist of free-standing, self-supporting bays containing incoming cable load interrupter switches, bus tie load interrupter switches, BG&E metering equipment, and outgoing cable load interrupter switches and power fuses or electronic fuses, as applicable, with provisions for extension to future bays as shown on the drawings.

o

1.4.1 One-line diagrams of typical metal-enclosed service entrance switchgear arrangements are included in these specifications.

2. SWITCHGEAR RATINGS

2.1 Minimum ratings of the switchgear assembly shall be as follows:

Rating	13.2kV Swgr.	33kV Swgr.
Nominal Voltage:	13.2 kV	33 kV
Max. Design Voltage:	15 kV	38 kV
BIL:	95 kV	150 kV
Continuous Current		
Main Bus:	600 A	600 A
Bus Taps:	600 A	600 A
Switches:	600 A	600 A
Load Interrupter Current:	600 A	600 A
Short-Circuit Interrupting		
RMS Symmetrical:	25 kA	17.5 kA
3-Phase Symmetrical at Rated Voltage:	500 MVA	1000 MVA
Duty Fault-Closing and Momentary		
RMS Asymmetrical:	40 kA	28 kA

2.2.1 The switchgear manufacturer shall furnish, upon request, certification of ratings of the basic load interrupter switch and fuse components, and/or the integrated metal-enclosed switchgear assembly consisting of the switch and fuse components mounted in the switchgear enclosure.

2.1.2 The switchgear manufacturer shall furnish, upon request, certification of the BIL rating established by test to insure that clearances between bare live parts and between such parts and adjacent grounded surfaces are adequate for the required BIL rating of the switchgear assembly.

THE CURRENT REVISION DATE IS SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY

3. SWITCH AND FUSE EQUIPMENT

3.1 Load interrupter switches shall be three-pole, group operated. Manually operated switches shall be equipped with an externally operable handle. Switch handles shall be nonremovable and equipped with padlocking facilities in either open or closed position. Power operated switches shall be equipped with electric motor operators compatible with the load interrupter switch.

3.2 Load interrupter switches shall be equipped with a quick-make, quick-break device to insure high-speed closing and opening of the switch independent of the speed of the operating handle.

3.3 Incoming supply feeder load interrupter switches shall be installed to receive the BG&E incoming cable on the hinged end at the bottom of the switch, with the jaw end of the switch at the top connected to the main bus.

3.3.1 Incoming feeder cable terminations will be furnished and installed by BG&E.

3.4 Where two or more BG&E supply feeders are installed, the associated incoming load interrupter switches shall be equipped with key interlocks and electrical interlocks (if switches are power operated) to prevent paralleling the supply feeders. (Additional requirements for electrically interlocked switches are specified under Automatic Transfer Operation, if applicable).

3.5 Load interrupter switches shall meet the requirements of BG&E for load interrupter switches used on 13.2kV or 33kV metal-enclosed switchgear installations.

o 3.5.1 Load interrupter switches currently approved by BG&E for metal-enclosed service entrance switchgear application are:

S&C Electric Company - "Mini-Rupter" or "Alduti-Rupter"
Powercon Corporation - "PIF"
Square D Company - "HVL"
Westinghouse Corporation - "WLI" or "WFS"
Brown Boveri-ITE - "HPL-C"

3.5.2 Other load interrupter switches will be considered subject to factory and/or field inspections, certified test data and drawing review and approval by BG&E prior to awarding an order to a manufacturer.

THE CURRENT REVISION DATE IS SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY

3.6 Power fuses shall be of the solid-material expulsion type utilizing refill-unit-holder or fuse-unit-end-fitting construction. Fuse holders shall be equipped with snufflers or condensers.

3.7 Electronic fuses shall utilize an expendable interrupting module and a reusable control module. The interrupting module shall consist of a main current section and a fault-interrupting section. These sections shall be arranged and contained in the same housing. o

3.8 Mounting for power and electronic fuses shall be 45° disconnect type. Adequate clearance, as if fuses were energized, shall be maintained through the entire arc traveled by the fuse to its open position.

3.9 Power fuses and electronic fuses shall meet the requirements of BG&E for use on 13.2kV or 33kV metal-enclosed switchgear installations. Ampere ratings and time-current characteristics of the power fuse units and/or electronic fuses shall be specified and/or approved by BG&E for each application.

3.9.1 Power fuses and electronic fuses currently approved by BG&E for metal-enclosed service entrance switchgear application are:

(a) Power Fuses:

S&C Electric Company - "SM-5S" or "SMU-40"
Westinghouse Corporation - "RBA-400"

(b) Electronic Fuses:

S&C Electric Company - "Fault Fiter"

3.10 Interphase and end barriers in the switchgear shall extend approximately 5" beyond the energized parts of the interrupting switch and fuse equipment. Barriers shall be sturdily mounted to prevent misalignment or incidental contact with any energized part.

THE CURRENT REVISION DATE IS SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY

3.11 Adequate fuse handling tools for the power fuses and/or electronic fuses shall be provided with the switchgear.

3.12 Spare fusing equipment shall be provided as follows:

(a) Power Fuses: Three spare fuse holders with snufflers or condensers, and six spare fuse refill units for each size.

(b) Electronic Fuses: Six spare interrupting modules of the proper rating.

THE CURRENT REVISION DATE IS SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY

4. MAIN AND GROUND BUSES

4.1 The main bus, bus taps and ground bus in the switchgear shall be aluminum or copper and shall be constructed and braced as to withstand the short circuit stresses associated with the interrupting rating of the switchgear.

4.2 Each bus bar connection in the switchgear shall be made up with at least two bolts not less than 3/8" diameter or one bolt not less than 1/2" diameter. Minimum phase-to-phase and phase-to-ground clearances of energized busses shall be determined by the BIL rating of the equipment. All bus taps and joints shall be plated.

4.3 All power and ground cable connections to the main bus and ground bus in the switchgear shall be made with two-bolt compression type connectors.

4.4 The switchgear assembly shall be equipped with provisions for extension of the main bus and the ground bus to future switchgear bays, as applicable.

4.5 Grounding devices approved by BG&E for the attachments of portable grounding equipment shall be provided as follows:

(a) On the line side of each incoming load interrupter switch.

(b) On the load side of the 13.2kV outgoing fuses, or on both sides of the 33kV outgoing fuses.

(c) On both sides of the BG&E metering current transformer bus connections.

(d) On the line side of the BG&E 13.2kV metering potential transformers, or on both sides of the BG&E 33kV metering potential transformer fuses.

(e) On the ground bus in front of each switchgear bay and compartment in the switchgear assembly.

4.5.1 Details of grounding devices acceptable by BG&E are included in these specifications. Alternate designs will be considered subject to approval by BG&E prior to fabrication and certified by test to withstand the minimum momentary RMS asymmetrical rating of the switchgear.

o

5. SWITCHGEAR ENCLOSURE

5.1 The switchgear assembly shall be integrally designed and compatible with the manufacturer of the basic switching components. Construction shall be in accordance with the minimum construction specifications of the fuse manufacturer, providing adequate space for fuse handling and venting and with sufficient rigidity and holding strength of enclosure, doors, windows, etc., for fuse exhaust.

5.2 Switchgear enclosure shall be fabricated from 11 gauge steel minimum and shall meet construction specifications for enclosures containing expulsion type power fuses. Each switchgear bay shall be a self-supporting unit enclosure, with full side walls to minimize the number of bolts required to join adjacent units during installation.

5.3 Switchgear bays shall be bolted together to form a complete assembly. The switchgear assembly shall be bolted to the concrete foundation pad using the anchor bolt recommendations outlined by the switchgear manufacturer. Units shall be arranged so that all connections shall be readily accessible.

5.4 Doors shall be fabricated from 11 gauge steel minimum, with concealed hinges and foot operated door holders. Door handles shall have provisions for padlocking. Inspection windows of adequate size shall be provided in the door of each load interrupting switch so that the open and closed positions can be readily observed from the outside of the switchgear.

THE CURRENT REVISION DATE IS SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY

5.5 Each switchgear bay and compartment in the switchgear assembly housing high voltage components shall be provided with a protective hinged screen barrier bolted closed with captive levers or other acceptable latching devices to prevent inadvertent physical contact with any energized part when the enclosure door is open.

o

o

5.5.1 Screen barriers in front of the load interrupter switches shall be equipped with signs warning that "Switch Blades May Be Energized In Any Position". Screen barriers in front of power fuses or electronic fuses shall be equipped with signs warning that "Fuses May Be Energized In Any Position". These warning signs are in addition to any other high voltage warning signs provided on the external and/or interior doors or barriers.

5.6 Key or mechanical interlocks shall be provided to prevent opening the door of the outgoing cable fuse compartment units unless the associated load interrupter switch is in open position or closing of the switch if the door is open. Protective covers shall be provided over all key interlocks to protect keys from weather and from breaking.

5.6.1 Except where power operated switches are provided in the incoming feeder units, mechanical interlocks shall not be provided in these units. It shall be possible to open the door of the incoming load interrupter switch units with the switch in either position for inspection and testing by BG&E operating personnel.

5.7 Removable brackets shall be provided in each incoming supply feeder load interrupter switch unit for the installation of three 10 kV duty cycle, 8.4 kV MCOV, or 27 kV duty cycle, 22.0 kV MCOV, heavy duty, metal oxide distribution class surge arresters by BG&E.

5.7.1 Details of the BG&E surge arresters and incoming feeder cable terminations are included in this specification.

THE CURRENT REVISION DATE IS SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY

5.8 Each switchgear bay shall be equipped with screened ventilation louvers as required.

5.9 For outdoor installations, the entire switchgear assembly shall be of outdoor construction and all doors and joints between bays shall be gasketed with suitable material to prevent moisture from entering the enclosure. Louvers on each unit shall be equipped with inside screens and baffle plates to guard against the entrance of insects, water, etc. The cylinder locks of the key interlock system shall be equipped with protective covers.

5.9.1 Outdoor switchgear units shall be equipped with heaters to maintain air circulation and prevent condensation inside the enclosures. Heaters shall be wired to one main fused safety switch or circuit breaker located in a steel enclosed compartment in the front of an incoming unit. An access cover shall be provided to allow operation of the heater switch while the switchgear is energized. Heaters shall be equipped with guards providing both thermal and electric shock protection to personnel. Heater wiring must be of the type capable of withstanding the high temperature environment in the proximity of the heaters.

5.9.2 For outdoor fenceless installations, the switchgear shall be of vandalproof construction capable of providing protection against contact with enclosed equipment that would be subject to deliberate unauthorized acts by members of the unsupervised general public. Switchgear shall be equipped with padlockable anti-vandalism steel covers over all switch operating handles, key interlock devices and viewing windows.

THE CURRENT REVISION DATE IS SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY

6. BG&E METERING

6.1 The switchgear metering units shall contain provisions for mounting the BG&E metering current and potential transformers, and potential transformer fuses, including all necessary drilling and bolting hardware.

6.2 The metering current transformers, potential transformers, and potential transformer fuses will be furnished and installed by BG&E. The quantity, rating, make and type of the metering transformers and fuses will be specified by BG&E for each application.

6.3 All primary connections from the switchgear bus to the current transformer terminals, from the switchgear bus to the potential transformer fuses, and from the fuses to the potential transformer terminals shall be provided by the switchgear manufacturer.

6.4 Primary connections between the switchgear bus and the current transformer terminals shall have the same current rating as the main switchgear bus.

6.5 Grounding devices on both sides of the current transformer bus connections shall be readily accessible and securely attached to the switchgear bus so as not to interfere with nor have to be removed during the installation, removal, or replacement of the metering current transformers.

THE CURRENT REVISION DATE IS SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY

6.6 Grounding devices on the primary leads to the potential transformers shall be readily accessible and securely attached to bus support insulators so as not to interfere with the installation, removal, or replacement of the metering potential transformers.

6.7 All primary cable connections shall be made with two-bolt compression type connectors.

6.8 All secondary wiring from the metering current and potential transformers shall be provided by the switchgear manufacturer. Wiring shall be extended & connected to a single 12-point terminal block in each metering unit.

6.9 The terminal block shall be Marathon No. 6000DJ, Westinghouse No. 542247, Buchanan No. B-112, or equal approved by BG&E. The terminal block shall be located within the metering unit, at either top front or bottom front of the compartment, depending on the remote meter cabinet conduit entrance.

6.10 Secondary wiring shall be type SIS or approved equal, stranded, insulated switchboard wire of #14 gage or larger. Wires shall be equipped with ring tongue type terminals at each end. Wiring shall be installed in metal conduit or where shielded wires are used, they shall be bundled and appropriately supported on the compartment walls. Insulating bushings are to be provided when wiring between adjacent compartments or through barriers and partitions.

6.11 A 2-inch conduit shall be provided from each metering unit in the switchgear to the location of the remote meter cabinets in accordance with Section 8 of this specification.

THE CURRENT REVISION DATE IS SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY

6.12 The switchgear drawings shall show the location where the customer shall terminate the 2-inch conduit at each metering unit in the switchgear.

6.13 Secondary wiring from the terminal block in the switchgear metering units to the remotely located meter cabinets will be furnished and installed by BG&E.

6.14 A telephone circuit for remote metering shall be provided in accordance with Section 8 of this specification.

6.15 Details of the BG&E meter cabinet, termination of the conduits and grounding provisions are included with these specifications.

6.16 Additional metering unit requirements for 13.2 kV service entrance switchgear are as follows:

6.16.1 A completely isolated compartment shall be provided in each metering unit for the installation of three metering current transformers similar to GE "JKM-110". Metering current transformers will be furnished and installed by BG&E.

6.16.2 A completely isolated compartment shall be provided in each metering unit for the installation of three metering potential transformers similar to GE "JVM-5". Metering potential transformers will be furnished and installed by BG&E.

6.16.3 The compartments shall be arranged to allow for the easy access, installation, removal, or replacement of the metering transformers after the metering unit is installed as an integral part of the switchgear assembly.

6.16.4 Separate hinged steel panels for access to the current and potential transformer compartments shall be provided, secured by captive fasteners and equipped with padlocking provisions. The padlocking feature may be omitted if the current and potential transformer compartments are located behind a padlockable door.

THE CURRENT REVISION DATE IS SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY

6.16.5 The switchgear ground bus shall be extended and mounted in the front of each compartment. A grounding device for the attachment of portable grounding leads shall be provided on the ground bus in each compartment.

6.16.6 A drawout carriage complete with fuse clips mounted on insulators shall be provided in a completely isolated compartment to accommodate three potential transformer fuses. Potential transformer fuses will be furnished and installed by BG&E.

6.16.7 Fuse clips shall be mounted on 11-1/2" centers to accommodate current limiting fuses having 1-9/16" diameter ferrules, similar to GE "EJ-1", Size "B", 15.5kV, 0.5E amp.

6.16.8 When fuses in the drawout carriage are mounted horizontally, they shall not be more than 5' above finished floor line. On vertical mountings, top fuse clips must not be more than 6' above finished floor line.

6.16.9 All current carrying contacts of the drawout carriage assembly shall be silver-plated with adequate electrical conductivity.

6.16.10 Before the potential fuses become accessible for checking or replacement, the drawout carriage shall allow for easy visibility to assure all contacts are disconnected and electrically grounded. Details of design and arrangement of grounding method shall be approved by BG&E prior to fabrication.

6.16.11 The switchgear manufacturer shall furnish and install all high voltage connections from the bus to the potential transformer fuse drawout assembly. All potential high voltage connections to the bus must be on the supply side of the metering current transformers.

6.16.12 In both the fully withdrawn position and fully closed position, the drawout carriage shall lock. The drawout carriage assembly shall be designed to allow for the easy access, installation, removal, or replacement of the fuses with the carriage in the fully withdrawn and locked position.

6.16.13 The front of the drawout carriage shall be provided with padlocking facilities. The padlocking facilities may be omitted if the draw-out carriage assembly is located behind a padlockable door.

6.16.14 A typical arrangement of a 13.2kV metering unit is included in these specifications.

THE CURRENT REVISION DATE IS SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY

6.17 Additional metering unit requirements for 33 kV Service Entrance Switchgear are as follows:

6.17.1 The metering unit shall be arranged for the installation of three metering current transformers similar to GE "JKW-7", and three metering potential transformers similar to GE "JVW-7". Metering transformers will be furnished and installed by BG&E.

6.17.2 The unit shall be arranged to allow for easy access, installation, removal or replacement of the metering transformers after the metering unit is installed as an integral part of the switchgear assembly.

6.17.3 Facilities for the installation of three potential transformer fuses shall be provided complete with fuse clips mounted on insulators. Potential transformer fuses will be furnished and installed by BG&E.

6.17.4 Fuse clips shall be mounted on 27" centers to accommodate current limiting fuses having 3" diameter ferrules, similar to GE "EJO-1", Size "D", 38kV, 2.0E amp.

6.17.5 Fuse mountings shall be arranged to allow for the easy access, installation, removal, or replacement of the fuses with the switchgear de-energized and both sides of the fuses grounded.

THE CURRENT REVISION DATE IS SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY

6.17.6 Grounding devices on both sides of the potential transformer fuses shall be readily accessible and securely attached to bus support insulators so as not to interfere with the installation, removal, or replacement of the potential transformer fuses.

6.17.7 The switchgear ground bus in front of the metering unit shall be equipped with a grounding device for the attachment of portable grounding leads.

6.17.8 The door of the metering unit shall be full length, with concealed hinges and foot operated door holder. Door handle shall have provisions for padlocking.

6.17.9 A full length protective hinged screen barrier bolted closed with captive levers or other acceptable latching device shall be provided to prevent inadvertent physical contact with any energized part when the enclosure door is open.

o 6.17.10 A typical arrangement of a 33kV metering unit is included in these specifications.

7. **AUTOMATIC TRANSFER OPERATION (IF APPLICABLE)**

7.1 Two-Feeder **NORMAL-ALTERNATE** Supply System (If Applicable)

7.1.1 The two motor-operated main switches on the incoming feeders shall operate in an automatic transfer system. Either incoming feeder can be selected as the normal incoming feeder or alternate incoming feeder as directed by BG&E. Necessary equipment shall be included and properly wired to accomplish the following automatic operations and control features:

THE CURRENT REVISION DATE IS SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY

1. Normal voltage on both incoming feeders.

   a. Main switch on normal incoming feeder closed.
   b. Main switch on alternate incoming feeder open.

o

o

2. Normal voltage on alternate incoming feeder and loss of voltage on the normal incoming feeder.

   a. Main switch on the incoming feeder on which there has been Loss of voltage shall open after a predetermined time delay.

   b. Main switch on the other incoming feeder shall close immediately thereafter.

3. Loss of voltage on normal incoming feeder and voltage not normal on the alternate incoming feeder.

   a. Main switch on the incoming feeder on which there has been loss of voltage shall not open, and the other main switch shall not close.

   b. Should voltage become normal on the feeder to which load could have been transferred, then the transfer operation shall be in accordance with Paragraph 2, above.

4. Loss and restoration of voltage on both incoming feeders simultaneously.

   a. Main switch closed shall not open, and main switch open shall not close.

5. Following restoration of normal voltage on incoming feeder from which load has been transferred and subsequent loss of voltage on the other incoming feeder.

   a. Main switch on the feeder on which there has been loss of voltage shall open after a predetermined time delay.

   b. Main switch on the feeder which is available for service shall close immediately thereafter.

6. Overcurrent blocking shall be provided to prevent an automatic operation under a fault condition.

7. Following an automatic transfer operation and subsequent restoration of voltage on the incoming feeder from which the load has been transferred, retransfer to normal operation shall be done manually as described below and not by automatic operation of the control equipment.

THE CURRENT REVISION DATE IS SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY

8. A selector switch for manual or automatic operation shall be provided. In the automatic position the transfer operation shall be as described above. In the manual position all automatic operation shall be nullified. Manual open transition retransfer to normal shall be possible with the selector switch in the manual position by opening the main switch on the alternate incoming feeder first and then closing the normal incoming feeder main switch.

9. An electrical interlock shall be provided to prevent paralleling the two incoming feeders. The interlock shall be effective with the selector switch in either the manual or automatic position.

10. A key-operated permissive switch shall be provided to allow BG&E personnel to by-pass the electrical interlock and manually parallel the two incoming feeders for closed transition switching under control conditions. The key-operated switch shall be effective with the selector switch in the manual position only. The key shall be removable with the switch in the normal position only and captive in the by-pass position.

11. Undervoltage detection for initiation of automatic transfer shall be provided on each incoming phase by one of the following:

    a. Capacitively coupled voltage sensors of constant-current output that do not require primary fuses.

    b. Fused potential transformers mounted on a drawout carriage which in the withdrawn position will allow the primary side of the potential transformer fuses to be visible disconnected and grounded, and the potential transformer secondary wiring visible disconnected.

12. A timer shall be provided to allow adjustable time delay from 0 to 10 seconds between loss of voltage and initiation of automatic transfer.

13. Pushbutton test switches shall be provided to simulate loss of voltage on either incoming feeder for testing the automatic transfer operation.

THE CURRENT REVISION DATE IS SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY

14. Push-to-test source-voltage indicating lamps shall be provided to indicate presence of voltage on each incoming feeder.

15. Operational power for the motorized switches shall be provided by one of the following:

    a. Battery and charger system of adequate capacity.

    b. Fused potential transformers mounted on a drawout carriage as indicated in Paragraph 11.b above.

16. A push-to-test indicating lamp shall be provided to indicate that all switch operators are coupled to their respective switches and are in the correct positions, that all doors providing access to switches are closed and latched, that the key-operated permissive switch is in the normal position with the key removed, that the selector switch is in the automatic position, and that all control circuits are properly connected for automatic transfer.

7.1.2 Complete control wiring diagram drawings for the automatic transfer system, including complete operating instructions and test procedure, shall be submitted to BG&E for review and approval prior to fabrication of the switchgear.

THE CURRENT REVISION DATE IS SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY

7.1.3 If fused potential transformers are provided for under voltage detection or operational power as indicated above, complete detail drawings for the drawout carriage assembly showing disconnecting and grounding provisions shall be included with the drawings submitted to BG&E for review and approval prior to fabrication of the switchgear.

7.2 Two-Feeder SPLIT-BUS Supply System (If Applicable).

7.2.1 The two motor-operated main switches on the incoming feeders and the motor-operated bus tie switch shall operate in an automatic transfer system. Necessary equipment shall be included and properly wired to accomplish the following automatic operations and control features:

1. Normal voltage on both incoming feeders.

   a. Both main switches closed.

   b. Bus tie switch open.

2. Normal voltage on one incoming feeder and loss of voltage on the other incoming feeder.

   a. Main switch on the incoming feeder on which there has been loss of voltage shall open after a predetermined time delay.

   b. Bus tie switch shall close immediately thereafter.

3. Loss of voltage on one incoming feeder and voltage not normal on the other incoming feeder.

   a. Main switch on the incoming feeder on which there has been loss of voltage shall not open, and the bus tie switch shall not close.

   b. Should voltage become normal on the feeder to which load could have been transferred, then the transfer operation shall be in accordance with Paragraph 2, above.

4. Loss and restoration of voltage on both incoming feeders simultaneously.

   a. Main switches on the incoming feeders shall not open, and bus tie switch shall not close.

THE CURRENT REVISION DATE IS SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY

5. Following restoration of normal voltage on incoming feeder from which load has been transferred and subsequent loss of voltage on the other incoming feeder.

   a. Main switch on the feeder on which there has been loss of voltage shall open after a predetermined time delay.

   b. Main switch on the feeder which is available for service shall close immediately thereafter, while the bus tie switch remains closed.

6. Over-current blocking shall be provided to prevent an automatic operation under a fault condition.

7. Following an automatic transfer operation and subsequent restoration of voltage on the incoming feeder from which the load had been transferred, retransfer to normal operation shall be done manually as described below and not by automatic operation of the control equipment.

8. A selector switch for manual or automatic operation shall be provided. In the automatic position the transfer operation shall be as described above. In the manual position all automatic operation shall be nullified. Manual open transition retransfer to normal shall be possible with the selector switch in the manual position by opening the bus tie switch first and then closing the incoming feeder main switch.

THE CURRENT REVISION DATE IS SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY

9. An electrical interlock shall be provided to prevent paralleling the two incoming feeders. The interlock shall be effective with the selector switch in either the manual or automatic position.

10. A key-operated permissive switch shall be provided to allow BG&E personnel to by-pass the electrical interlock and manually parallel the two incoming feeders for closed transition switching under control conditions. The key-operated switch shall be effective with the selector switch in the manual position only. The key shall be removable with the switch in the normal position only and captive in the by-pass position.

11. Undervoltage detection for initiation of automatic transfer shall be provided on each incoming phase by one of the following:

    a. Capacitively coupled voltage sensors of constant-current output that do not require primary fuses.

    b. Fused potential transformers mounted on a drawout carriage which in the withdrawn position will allow the primary side of the potential transformer fuses to be visible disconnected and grounded, and the potential transformer secondary wiring visible disconnected.

12. A timer shall be provided to allow adjustable time delay from 0 to 10 seconds between loss of voltage and initiation of automatic transfer.

13. Pushbutton test switches shall be provided to simulate loss of voltage on either incoming feeder for testing the automatic transfer operation.

14. Push-to-test source-voltage indicating lamps shall be provided to indicate presence of voltage on each incoming feeder.

15. Operational power for the motorized switches shall be provided by one of the following:

    a. Battery and charger system of adequate capacity.

    b. Fused potential transformers mounted on a drawout carriage as indicated in Paragraph 11.b above.

16. A push-to-test indicating lamp shall be provided to indicate that all switch operators are coupled to their respective switches and are in the correct positions, that all doors providing access to switches are closed and latched, that the key-operated permissive switch is in the normal position with the key removed, that the selector switch is in the normal position with the key removed, that the selector switch is in the automatic position, and that all control circuits are properly connected for automatic transfer.

THE CURRENT REVISION DATE IS SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY

7.2.2 Complete control wiring diagram drawings for the automatic transfer system, including complete operating instructions and test procedure, shall be submitted to BG&E for review and approval prior to fabrication of the switchgear.

7.2.3 If fused potential transformers are provided for under voltage detection or operational power as indicated above, complete detail drawings for the drawout carriage assembly showing disconnecting and grounding provisions shall be included with the drawings submitted to BG&E for review and approval prior to fabrication of the switchgear.

8. MISCELLANEOUS INFORMATION

8.1 Substation Transformers

8.1.1 The primary windings shall be rated 13,200 volts or 33,000 volts, with two 2-1/2% full capacity taps above and below the nominal rating.

8.1.2 The minimum BIL rating of the transformers shall be 95kV for 13.2kV supply, or 150kV for 33kV supply.

8.1.3 Minimum impedances of the transformers shall be 4% at 13.2kV, or 5% at 33kV.

8.2 Substation Grounding System

8.2.1 A driven ground rod system consisting of copper-clad steel or stainless steel ground rods shall be installed in the substation area. The ground rods shall be interconnected with 4/0 bare copper or copper-clad wire and shall have a measured ground resistance of not more than 5 ohms.

8.2.2 All noncurrent carrying metal parts of the substation shall be connected to the ground system. The switchgear ground bus shall be connected at a minimum of two places to the ground system with 4/0 bare copper wire. A 1/0 bare copper wire shall be extended from the ground system to the location of the BG&E meter cabinet, with 3 feet of free length for grounding the cabinet.

THE CURRENT REVISION DATE IS SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY

8.2.3 Exothermic joints shall be used for all connections below grade. Double-bolted compression type connectors shall be used for above grade ground connections to equipment ground bus.

8.2.4 When a substation fence is specified, it shall be connected to the ground grid system of the substation. A 1/0 bare stranded copper or equivalent copper weld shall be located 2'-6" outside the fence, buried 12" below grade. Every other fence post shall be connected to the ground system and the gates shall be equipped with a flexible ground strap at the hinged sides. The fence shall be 8' high minimum made of 7' metal fabric and topped by a 1' height of barbed wire. A 3'-0" personnel gate shall be provided and shall be equipped with double padlocking facilities. High voltage warning signs shall be provided on the access gates and on all sides of the fence enclosure.

8.2.5 Typical substation grounding grid details are included in these specifications.

8.3 All work shall conform with the rules, regulations, and requirements of all applicable codes and BG&E.

8.4 The substation shall be tested in accordance with Inspections and Tests Prior to Energizing Metal-Enclosed Service Entrance Switchgear included in these specifications. A copy of the test report shall be submitted to BG&E before the substation will be energized.

THE CURRENT REVISION DATE IS SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY

8.5 Rigid non-metallic 6" conduits shall be provided for the incoming and outgoing feeders from the switchgear. The 90° elbows to terminate the conduits in the switchgear units shall have a minimum bending radius of 48" unless otherwise approved by BG&E.

8.6 An empty 2" conduit shall be provided from each metering unit in the switchgear to the location of the meter cabinets. Conduits shall be rigid metal, rigid non-metallic, or electrical metallic tubing, as permitted by the National Electrical Code for the specific customer installation. Conduits shall be terminated 6" above the floor and 6" from the wall at the meter cabinet locations. Meter cabinets will be furnished and installed by BG&E. Meter cabinets will be 36"W x 60"H x 13"D. The location of the meter cabinets shall be shown on the contract drawings and shall be readily accessible and as close as possible to the switchgear metering unit. A minimum 5' of clearance is required in front of the meter cabinets. The quantity and location of the meter cabinets shall be specified and approved by BG&E for each installation.

8.7 A 4/C (two twisted pair) telephone cable in a 3/4" conduit shall be extended from the customer telephone system to the BG&E meter cabinet. The cable shall be #24 AWG solid copper, UL type CMP, with fluorinated ethylene propylene insulation, or better if required by the National Electrical Code. Pairs shall be twisted with five twists every 12". The customer shall supply BG&E with a telephone number capable of being called at any time for remote metering by BG&E.

8.7.1 Details of the meter cabinet and its installation are included in these specifications.

8.8 A minimum aisle of 6'-0" shall be provided in front of the switchgear.

8.9 A separate metal cabinet equipped with a padlockable hinged cover shall be provided to house the fuse handling tools and spare fusing equipment.

THE CURRENT REVISION DATE IS SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY

8.10 Master keyed padlocks shall be provided for the substation access door, all load interrupter switch operating handles and doors of all switchgear units. One key shall be located in a padlockable metal keybox. This keybox shall be mounted outside the substation, adjacent to the access door, and shall have a hinged cover with suitable provisions for padlocking by BG&E.

8.11 In the event that the substation is located adjacent to road-ways, loading docks, parking areas or any area susceptible to damage from vehicular traffic, pipe guards or barriers shall be installed around the substation area to protect the fence and/or electrical equipment.

8.12 Pipes and duct systems foreign to the electrical installation shall not enter or pass through the switchgear room.

8.13 A concrete pad shall be provided to adequately support the service entrance switchgear. Where applicable, the fenced area in outdoor substations shall be filled with 3/4" crushed stone to a depth of 4". The top of the stone shall be approximately level with the top of the concrete pad supporting the switchgear.

9. INSPECTION AND TEST REQUIREMENTS PRIOR TO ENERGISING METAL-ENCLOSED SERVICE ENTRANCE SWITCHGEAR

9.1 Certificate of Electrical Inspection

9.1.1 A certificate of electrical inspection covering all new main substations and reconnection of a modified or relocated existing main substation shall be obtained from the proper Code enforcing authority and a copy forwarded to BG&E before such equipment may be energized. On government projects, a letter covering approval of the installation, signed by the duly authorized government agent and forwarded to BG&E is acceptable in lieu of the certificate. The other exceptions to the certificate requirement are those specified by National Electric Code.

THE CURRENT REVISION SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY

9.2.1 An electrical testing service company will make applicable field inspections and tests as listed below. Before the equipment is energized, a written report of the field inspection and tests shall be forwarded to BG&E. These inspections and tests must be made as near as possible to the scheduled service date. Appropriate tests are to be applied to the low voltage windings of transformers and associated equipment. The Customer must also perform the following:

1. The Customer shall deliver (if applicable) at least 15 days prior to service, the drawout elements of protective relays for blocking the automatic transfer operation of main incoming feeders to BG&E. BG&E will reinstall the protective relay drawout elements prior to energizing the Customer Substation as outlined below. Cases for drawout type relays and non-drawout type relays are not to be delivered to BG&E.

2. Inspect all high voltage equipment, wiring and connections to assure that none of the customer substation equipment or connections are faulty prior to the application of high voltage tests.

3. Make complete inspection of all load interrupter switches and check adjustments of contacts, operating mechanism, and other items as specified per manufacturers instructions.

THE CURRENT REVISION DATE IS SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY

4. On all outgoing feeders equipped with power or electronic fuses, verify the ampere rating and time-current characteristic of the fuse units. Record of the ampere rating, time-current characteristic, type and make of all power or electronic fuses must be included in the written report to BG&E.

5. Measure the ground resistance of the substation ground system. The resistance shall not exceed 5 ohms. Record of the measured ground resistance shall be included in the written report to be forwarded to BG&E.

6. Measure insulation resistance of all transformer windings, interrupter switches, buses, etc. These measurements must be made before the external connections are completed to the high voltage and low voltage transformer bushings.

7. Make dielectric tests on insulating liquid samples from all transformers, etc.

8. Verify transformer ratios on all tap positions. Also set transformer tap changers on tap position selected to give desired secondary operating voltage.

9. Apply high voltage tests on all new high voltage equipment and wiring, consisting of the application of 75% of the original factory test for one minute as specified in ANSI and IEEE standards. Where used or rebuilt equipment is used, the test voltage may be restricted by the manufacturer to 65% or even less of the original factory test depending upon its age and conditions. Tests on high voltage cables shall be made in accordance with the latest requirements of AEIC, IPCEA, or as specified by the manufacturer.

THE CURRENT REVISION DATE IS SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY

10. Make voltage build-up tests on all equipment and wiring with a voltage sufficient to determine that no short circuits exist.

11. Apply high-voltage phase-out tests on all high voltage circuits which can be connected in parallel during switching operations and also on duplicate supply circuits having switching equipment equipped with key or electrical interlocks to prevent parallel operation. Also apply low voltage phase-out tests to low voltage buses and/or low voltage feeders equipped with electrical or key interlocks to prevent parallel operation.

12. Test the automatic transfer facilities on main high voltage circuits and/or transformer low voltage circuits to assure satisfactory operation.

13. Where control transformers are provided on the incoming line circuits, test the automatic changeover contactor, which makes control voltage available from either of the control transformers, to assure satisfactory operation.

14. Verify satisfactory operation of all interlocking systems provided to prevent paralleling supply circuits and/or paralleling with on site generation. Also verify satisfactory operation of all interlocking systems provided for safety to operating personnel.

THE CURRENT REVISION DATE IS SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY

9.3 Inspections and Tests to be Performed by BG&E Without Charge to the Customer

9.3.1 In substations where two or more incoming supply feeders are installed, BG&E will make live high voltage phase-out tests between the incoming feeders.

9.3.2 In substations where the main incoming load interrupter switches are equipped with automatic transfer facilities, BG&E will perform the following functions (if applicable):

1. Inspect, test and set drawout element of protective blocking relays previously delivered to BG&E in accordance with 9.2 above.

2. Deliver and install protective blocking relay drawout elements in the Customer switchgear.

3. Non-drawout protective blocking relays will be inspected and set at the Customer switchgear.

4. Wire check control wiring from the blocking current transformers to the protective blocking relays and to the lockout relays.

   Note: BG&E will bring to the attention of the Customer any problems found in the protective blocking and lock-out relaying control wiring for correction by the Customer. After wiring problems have been resolved, BG&E will complete these wiring checks.

5. Verify satisfactory operation of the automatic transfer operation and protective blocking feature.

   Note: Approved elementary diagram and associated control wiring diagrams of the power operated switches and protective blocking relaying, including automatic transfer system, shall be furnished to BG&E at least 15 days prior to service date. The service date will be determined by the Customer schedule and coordinated with BG&E.

THE CURRENT REVISION DATE IS SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY

10. TYPICAL SWITCHGEAR ARRANGEMENTS AND DETAILS

10.1 The following figures represent various typical arrangements of metal-enclosed service entrance switchgear, and its corresponding BG&E metering and grounding requirements.

Figure 1 - Single Source Supply
Figure 2 - Two Sources - Normal & Alternate Supply
Figure 3 - Two Sources - Split Bus Supply
Figure 4 - BG&E Metering Units
Figure 5 - Grounding Bails
Figure 6 - BG&E Meter Cabinet
Figure 7 - BG&E Surge Arresters
Figure 8 - Substation Grounding

10.2 Specific installations may require modifications to these typical arrangements. They shall be reviewed with BG&E prior to designing the customer substation and will require acceptance by BG&E.

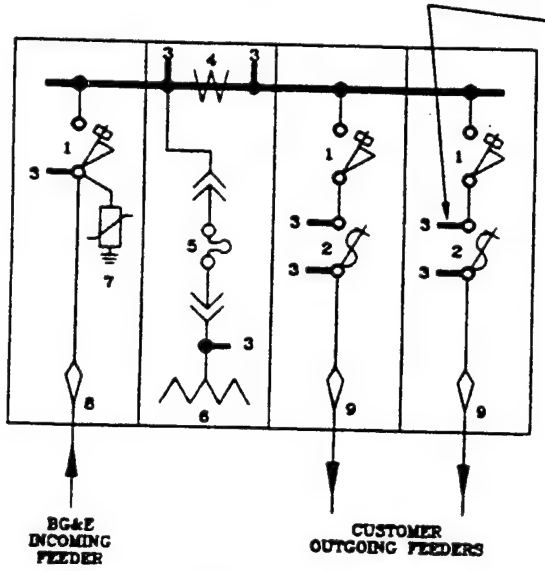
10.3 Summary of customer substation documents requiring approval by BG&E as indicated in this specification.

1. Contract drawings and specifications covering the customer substation installation, including the service entrance switchgear equipment, incoming cable conduits, BG&E meter cabinets and conduits, telephone circuit for remote BG&E metering, substation transformers, grounding facilities, and inspection and test requirements.

2. Manufacturing shop drawings for the entire service entrance switchgear assembly, including grounding details of any drawout carriage furnished, BG&E metering units, grounding bails and battery and charger equipment if provided.

3. Certified report of the inspections and tests required prior to energizing the service entrance switchgear.

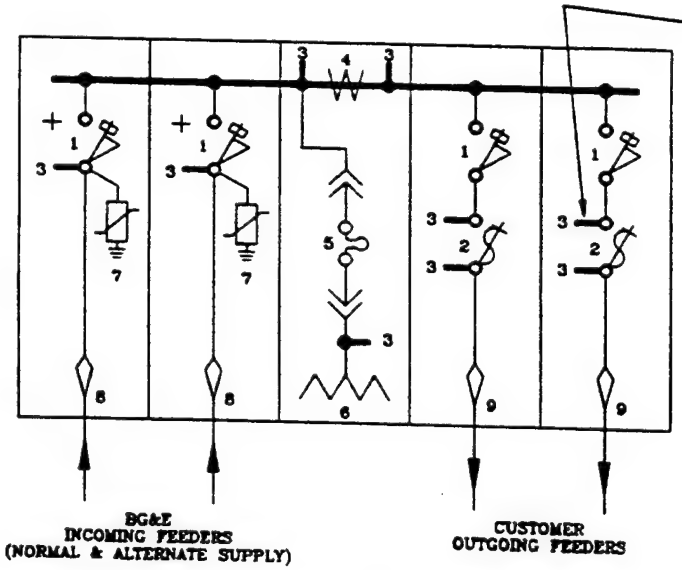
THE CURRENT REVISION DATE IS SHOWN ON SHEET 1 AND ALL AFFECTED SHEETS ONLY



(SEE SHEET 32, FIGURE 3 FOR LEGEND.)

SINGLE BG&E FEEDER

FIGURE 1



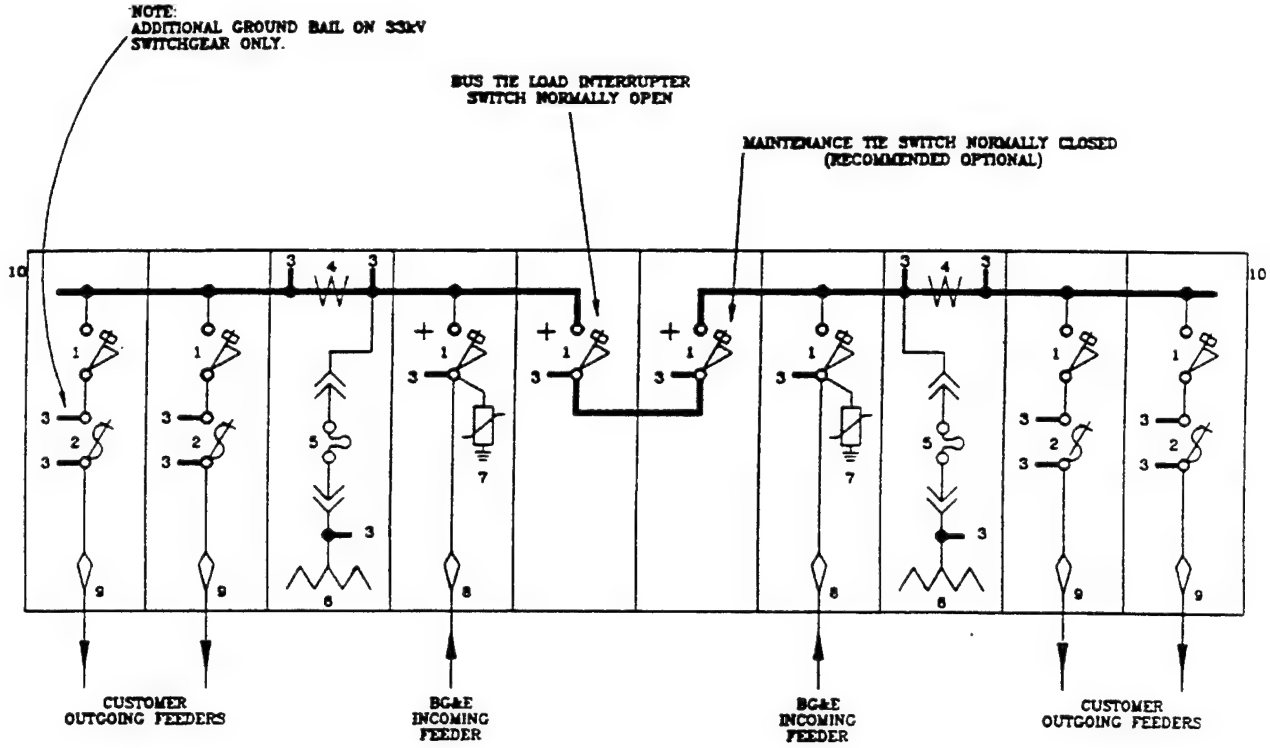
+ KEY INTERLOCKS TO PREVENT PARALLELING INCOMING FEEDERS.

TYPICAL ARRANGEMENT ALSO APPLICABLE TO POWER OPERATED SWITCHES EQUIPPED WITH AUTOMATIC TRANSFER OPERATION.

(SEE SHEET 32, FIGURE 3 FOR LEGEND.)

TWO BG&E FEEDERS - SINGLE BUS SWGR.

FIGURE 2



+ KEY INTERLOCKS TO PREVENT PARALLELING INCOMING FEEDERS.

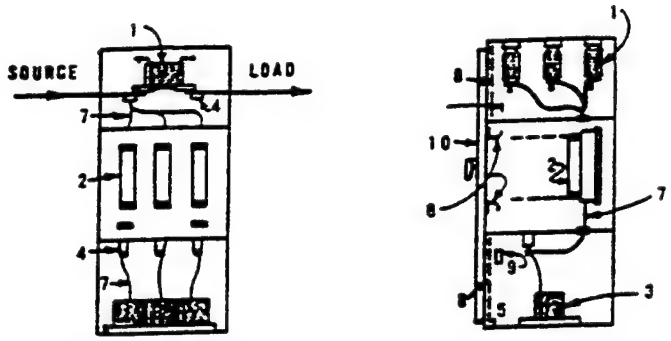
TYPICAL ARRANGEMENT ALSO APPLICABLE TO POWER OPERATED SWITCHES EQUIPPED WITH AUTOMATIC TRANSFER OPERATION.

NOTE: SPLIT-BUS SUPPLY MAY BE REQUIRED BY BG&E BASED ON LOAD MAGNITUDE AND LOCATION.

LEGEND

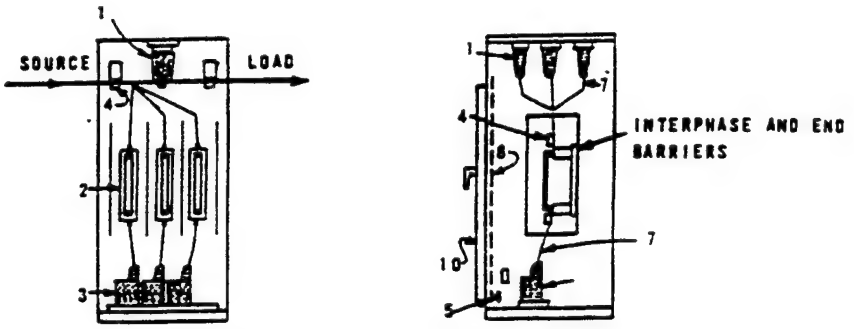
1. LOAD INTERRUPTER SWITCH
2. POWER FUSES
3. GROUNDING BAILS
4. BG&E METERING CURRENT TRANSFORMERS
5. BG&E METERING POTENTIAL TRANSFORMERS
6. BG&E FUSES
7. BG&E SURGE ARRESTERS
8. BG&E CABLE TERMINATIONS
9. CABLE TERMINATIONS
10. PROVISIONS FOR FUTURE SWITCHGEAR EXTENSION

TWO BG&E FEEDERS - SPLIT BUS SWGR.
FIGURE 3



FRONT VIEW SIDE VIEW

TYPICAL ARRANGEMENT FOR 13.2kV METERING UNIT.



FRONT VIEW SIDE VIEW

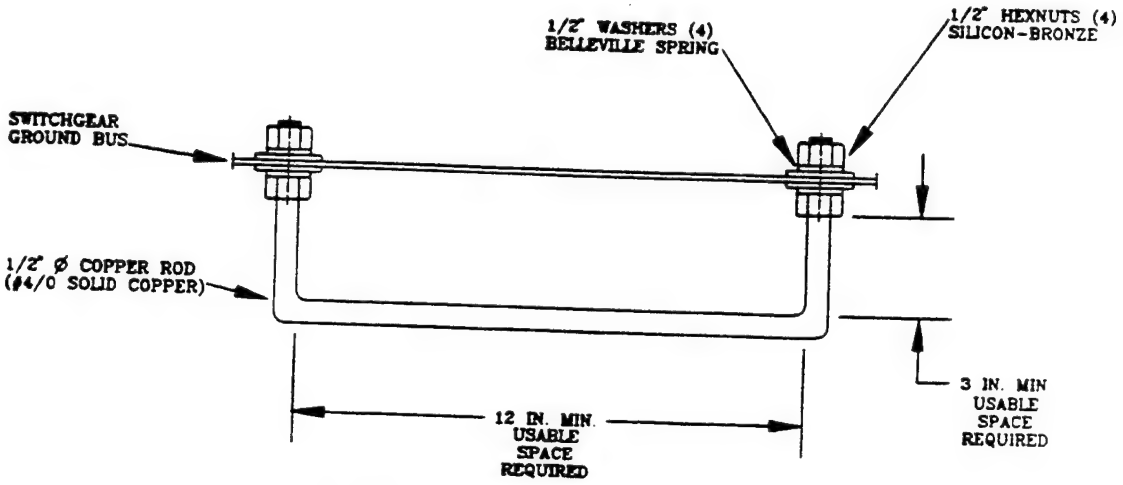
TYPICAL ARRANGEMENT FOR 33kV METERING UNIT.

NOTE: TYPICAL ARRANGEMENT SHOWN DOES NOT PRECLUDE OTHERS. PROVIDED BG&E APPROVAL IS GIVEN PRIOR TO SWITCHGEAR FABRICATION.

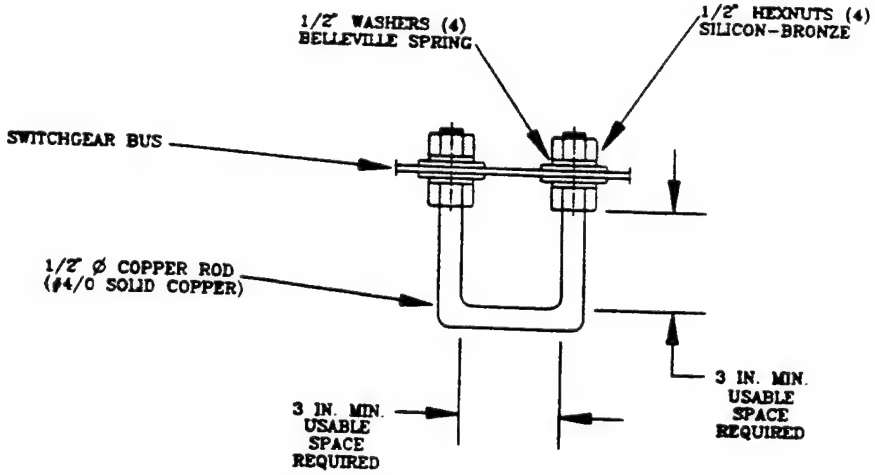
LEGEND

1. BG&E CURRENT TRANSFORMERS
2. BG&E POTENTIAL TRANSF. FUSES
3. BG&E POTENTIAL TRANSFORMERS
4. GROUNDING BAILS (C.T. & P.T.)
5. GROUNDING BAIL (GROUND BUS)
6. GROUNDING FINGERS (P.T. FUSES)
7. CUSTOMER WIRING
8. HINGED SCREEN BARRIER
9. TERMINAL BLOCK & CUSTOMER SECONDARY WIRING
10. PADLOCKABLE DOOR

BG&E METERING UNITS
FIGURE 4



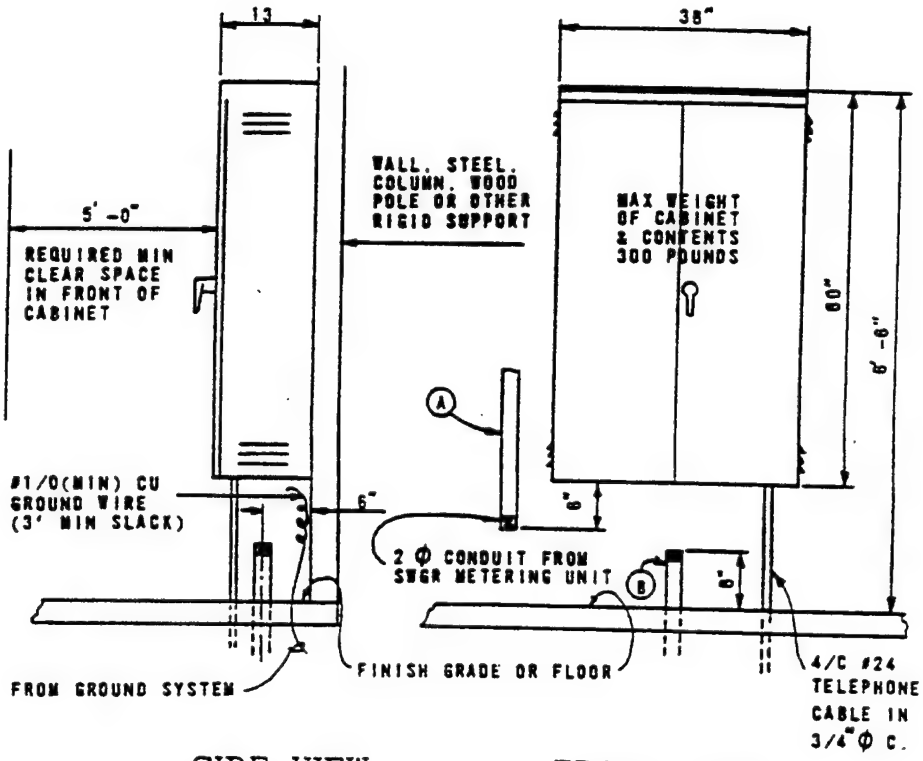
SWITCHGEAR GROUND BUS



CURRENT & POTENTIAL TRANSFORMER GROUND BAILS

ALTERNATE DESIGNS MAY BE CONSIDERED BY BG&E PROVIDED THEY ARE APPROVED BY BG&E PRIOR TO FABRICATION OF SWITCHGEAR AND THEY ARE CERTIFIED BY TEST TO WITHSTAND MOMENTARY RMS ASSYMETRICAL FAULT CURRENT RATING OF THE SWITCHGEAR.

MINIMUM GROUNDING BAIL REQUIREMENTS
FIGURE 5



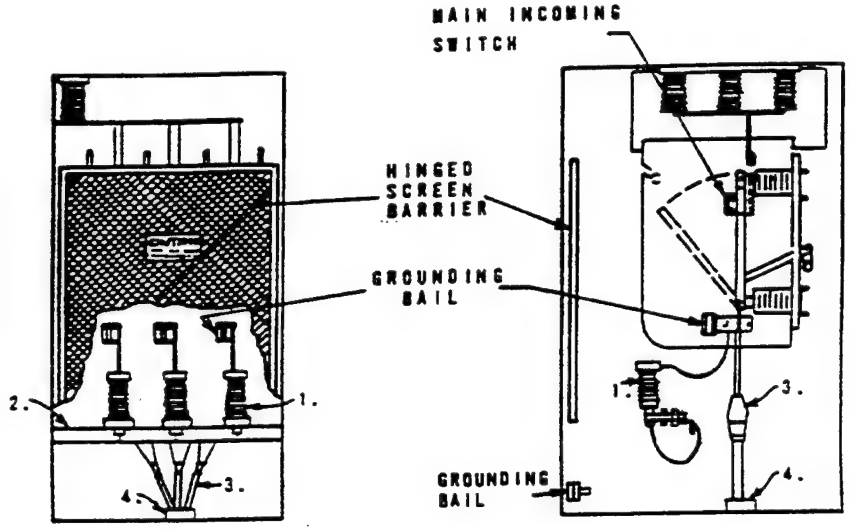
SIDE VIEW FRONT VIEW

A TERMINATION BY CUSTOMER OF 2" Ø CONDUIT FOR ABOVE GROUND/FLOOR INSTALLATION.

B TERMINATION BY CUSTOMER OF 2" Ø CONDUIT FOR BELOW GROUND/FLOOR INSTALLATION.

1. CUSTOMER TO PROVIDE A 2" Ø CONDUIT (RIGID METAL, RIGID NONMETALLIC, OR ELECTRICAL METALLIC TUBING, AS REQUIRED/PERMITTED BY NATIONAL ELECTRICAL CODE).
2. CUSTOMER TO PROVIDE A #1/0 (MIN.) BARE COPPER WIRE FROM SUBSTATION GROUND SYSTEM TO METER CABINET WITH 3' MIN. SLACK FOR GROUNDING CABINET.
3. CUSTOMER TO PROVIDE A 4/C #24 AWG. SOLID COPPER (TWO TWISTED PAIR) TELEPHONE CABLE FROM CUSTOMER TELEPHONE SYSTEM (TO BE USED FOR BG&E REMOTE METERING).

BG&E METER CABINET INSTALLATION
OUTDOOR/INDOOR
FIGURE 6



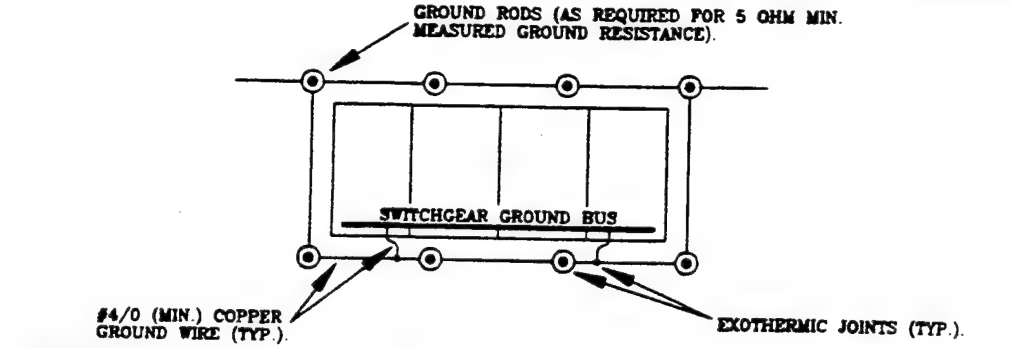
FRONT VIEW

SIDE VIEW

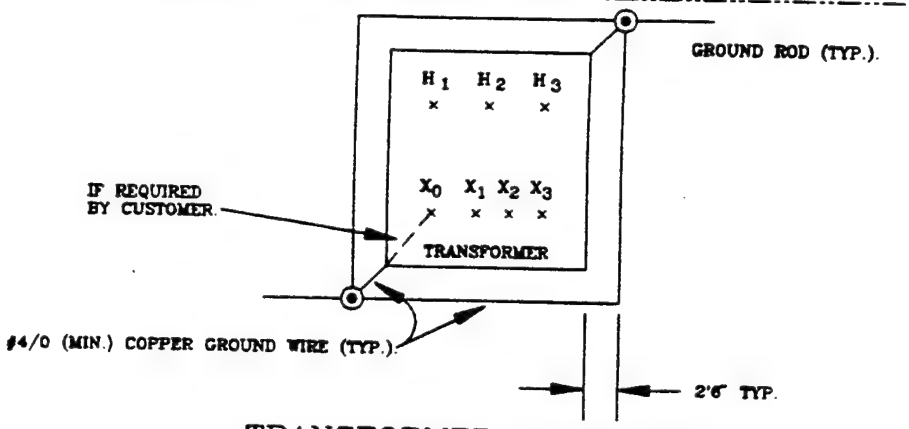
LEGEND

1. DISTRIBUTION CLASS METAL-OXIDE SURGE ARRESTERS BY BG&E.
2. REMOVABLE MOUNTING BRACKET BY CUSTOMER.
3. INCOMING CABLE TERMINATION BY BG&E.
4. 6" Ø RIGID NON-METALLIC CONDUIT BY CUSTOMER.

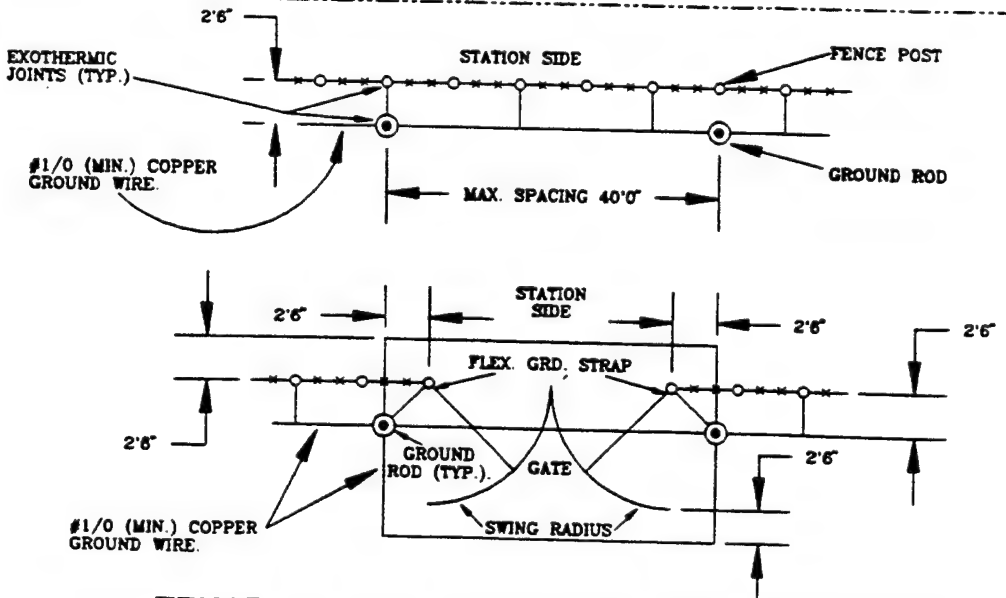
BG&E SURGE ARRESTERS
FIGURE 7



SWITCHGEAR GROUNDING



TRANSFORMER GROUNDING



FENCE & GATE GROUNDING (IF APPLICABLE)

SUBSTATION GROUNDING DETAILS

FIGURE 8

ATTACHMENT 8.3
ELECTRIC UTILITY BILLS

M-7020 (REV. 7/93) Customer Accounts

METER READING DATES
12/2/93 TO 1/3/94
NEXT SCHEDULED READING DATE
12/31/94
DUE
1/26/94

BALTIMORE GAS AND ELECTRIC COMPANY
P.O. BOX 630632
BALTIMORE, MARYLAND 21263

ELECTRIC SCHEDULE P TIME-OF-DAY (TOD) BILL

5600 MARYLAND BLVD *SECT AA 9722
U S DEPT OF THE ARMY 6940
DAAD 05-70-C-0096 W4C
ATTN STEAP-SV-RP
ABRDN PRV GRD MD 21005

	JUN-SEPT —		DAYS	OCT-MAY — 32		DAYS	TOTAL	
	(1) UNITS	(2) RATE	(3)=(1)X(2) AMOUNT $	(4) UNITS	(5) RATE	(6)=(4)X(5) AMOUNT $	(7)=(1)+(4) KWH	(8)=(3)+(6) NET AMT.
A. Customer Charge Per Month	—	—	—	—	—	—	—	$750.00
B. Demand Charges:	KW	Per KWH		KW	Per KW			
Production & Transmission		$ 12.09		21760	$ 5.99	130342.40		$ 130342.40
Distribution		$ 2.33		21540	$ 2.33	50188.20		$ 50188.20
C. ENERGY CHARGES:	KWH	Per KWH		KWH	Per KWH			
On-Peak		$ .03918		3053081	$ .02385	72815.98		72815.98
Intermediate Peak		$ .02870		2371663	$ .02165	51346.50		51346.50
Off-Peak		$ .01596		6348256	$ .01302	82654.29		82654.29
Total Energy Charges				11773000			11773000	$ 206816.77

FOR OFFICE USE ONLY	
TC	C/C
SCHED. CODE	
NO. OF METERS	
LATE PYMT. CHG.	
MINIMUM CHARGE: $750.00 PLUS DEMAND CHARGE	

DATE	TIME	DEMAND
12/29	11:00	21760

CREDIT PER USE OF TRANSMISSION LINE
PER CONTRACT 6/26/50

Fuel Rate - Total Energy KWH@	.01296	152578.08
Sub-Total		$ 540675.45
County Surcharge		
[illegible] RIDER 5 AIR COND. CREDIT		0
Elec. Envir. Surcharge		1000.00
Sub-Total		$ 541675.45
[illegible]		731.00
[illegible]		
Total Electric Gross:		Net:
		$ 540944.45 $ 540944.45

M-7020 (REV. 7/93) Customer Accounts

METER READING DATES
1/3/94 TO 1/31/94
NEXT SCHEDULED READING DATE
3/2/94

DUE
2/28/94

BALTIMORE GAS AND ELECTRIC COMPANY
P.O. BOX 630632
BALTIMORE, MARYLAND 21263

5600 MARYLAND BLVD *SECT AA 9722
U S DEPT OF THE ARMY 694(
DAAD 05-70-C-0096 W4C
ATTN STEAP-SV-RP
ABRDN PRV GRD MD 21005

ELECTRIC SCHEDULE P TIME-OF-DAY (TOD) BILL

	JUN-SEPT — DAYS			OCT-MAY — 28 DAYS			TOTAL	
	(1) UNITS	(2) RATE	(3)=(1)X(2) AMOUNT $	(4) UNITS	(5) RATE	(6)=(4)X(5) AMOUNT $	(7)=(1)+(4) KWH	(8)=(3)+(6) NET AMT.
A. Customer Charge Per Month	—	—	—	—	—	—	—	$750.00
B. Demand Charges:	KW	Per KWH		KW	Per KW			
Production & Transmission		$ 12.09		26700	$ 5.99	159933.00		$ 159933.00
Distribution		$ 2.33		26460	$ 2.33	61651.80		$ 61651.80
C. ENERGY CHARGES:	KWH	Per KWH		KWH	Per KWH			
On-Peak		$ .03918		3183427	$ .02385	75924.73		75 924.73
Intermediate Peak		$ .02870		2551665	$ .02165	55243.55		55243.55
Off-Peak		$ .01596		6287908	$ .01302	81868.56		81868.56
Total Energy Charges				12023000			12023000	$ 213036.84

FOR OFFICE USE ONLY	
TC	C/C
SCHED. CODE	
NO. OF METERS	
LATE PYMT. CHG.	
MINIMUM CHARGE: $750.00 PLUS DEMAND CHARGE	

"RIDER #5 AIR COND. CREDIT"

DATE	TIME	DEMAND
1/19	9:45	26700

CREDIT PER USE OF TRANSMISSION LINE PER CONTRACT 6/26/50

Fuel Rate - Total Energy KWH@ .01296	155818.08
Sub-Total	$ 591189.72
County Surcharge	
[illegible]	0
Elec. Envir. Surcharge	1000.00
Sub-Total	$ 592189.72
[illegible]	
[illegible]	731.00
Total Electric Gross:	Net:
$ 591458.72	$ 591458.72

M-7020 (REV. 7/93) Customer Accounts

METER READING DATES
1/31/94 TO 3/2/94

NEXT SCHEDULED READING DATE
3/31/94

DUE
3/25/94

BALTIMORE GAS AND ELECTRIC COMPANY
P.O. BOX 630632
BALTIMORE, MARYLAND 21263

5600 MARYLAND BLVD *SECT AA 9722
U S DEPT OF THE ARMY 6940
DAAD 05-70-C-0096 W4C
ATTN STEAP-SV-RP
ABRDN PRV GRD MD 21005

ELECTRIC SCHEDULE P TIME-OF-DAY (TOD) BILL

	JUN-SEPT —		DAYS	OCT-MAY — 30		DAYS	TOTAL	
	(1) UNITS	(2) RATE	(3)=(1)X(2) AMOUNT $	(4) UNITS	(5) RATE	(6)=(4)X(5) AMOUNT $	(7)=(1)+(4) KWH	(8)=(3)+(6) NET AMT.
A. Customer Charge Per Month	—	—	—	—	—	—	—	$750.00
B. Demand Charges:	KW	Per KWH		KW	Per KW			
Production & Transmission		$ 12.09		25360	$ 5.99	151906.40		$ 151906.40
Distribution		$ 2.33		25080	$ 2.33	58436.40		$ 58436.40
C. ENERGY CHARGES:	KWH	Per KWH		KWH	Per KWH			
On-Peak		$ .03918		3264481	$ .02385	77857.87		77857.87
Intermediate Peak		$ .02870		2486753	$ .02165	53838.20		53838.20
Off-Peak		$ .01596		6590766	$ .01302	85811.77		85811.77
Total Energy Charges				12342000			12342000	$ 217507.84

FOR OFFICE USE ONLY	
TC	C/C
SCHED. CODE	
NO. OF METERS	
LATE PYMT. CHG.	
M CHARGE: PLUS RGE	

DATE	TIME	DEMAND
2/10	10:00	25360

Fuel Rate - Total Energy KWH@	.01296	159952.32
Sub-Total		$ 588552.96
County Surcharge		
RIDER 5 AIR CONDITIONING CREDIT		0
Elec. Envir. Surcharge		1000.00
Sub-Total		$ 589552.96
[illegible]		
CREDIT PER USE OF TRANSMISSION LINE PER CONTRACT 6/26/50		731.00
Total Electric Gross:		Net:
	$ 588821.96	588821.96

(REV. 7/93) Customer Accounts

R READING DATES
/94 TO 3/31/94
SCHEDULED READING DATE
)/94

1/94

BALTIMORE GAS AND ELECTRIC COMPANY
P.O. BOX 630632
BALTIMORE, MARYLAND 21263

5600 MARYLAND BLVD *SECT AA 9722
U S DEPT OF THE ARMY 6940
DAAD 05-70-C-0096 W4C
ATTN STEAP-SV-RP
ABRDN PRV GRD MD 21005

ELECTRIC SCHEDULE P TIME-OF-DAY (TOD) BILL

	JUN-SEPT — DAYS			OCT-MAY — 29 DAYS			TOTAL	
	(1) UNITS	(2) RATE	(3)=(1)X(2) AMOUNT $	(4) UNITS	(5) RATE	(6)=(4)X(5) AMOUNT $	(7)=(1)+(4) KWH	(8)=(3)+(6) NET AMT.
Customer Charge Per Month	—	—	—	—	—	—	—	$750.00
Demand Charges:	KW	Per KWH		KW	Per KW			
Production & Transmission		$ 12.09		23880	$ 5.99	143041.20		$ 143041.20
Distribution		$ 2.33		23640	$ 2.33	55081.20		$ 55081.20
ENERGY CHARGES:	KWH	Per KWH		KWH	Per KWH			
On-Peak		$ .03918		3000393	$ .02385	71559.37		71559.37
Intermediate Peak		$ .02870		2405625	$ .02165	52081.78		52081.78
Off-Peak		$ .01596		5499982	$ .01302	71609.77		71609.77
Total Energy Charges				10906000			10906000	$ 195250.92

Fuel Rate - Total Energy KWH@ .01296	141341.76
Sub-Total	$ 535465.08
County Surcharge	0
[illegible]	1000.00
Elec. Envir. Surcharge	
Sub-Total	$ 536465.08
[illegible]	—
[illegible]	731.00 CR
Total Electric Gross:	Net:
$ 535734.08	$ 4.08

FOR OFFICE USE ONLY	
TC	C/C
SCHED. CODE	
NO. OF METERS	
[illegible] ATE PYMT. CHG.	
[illegible] CHARGE: [illegible] US	

DATE: 3/17
TIME: 9:00
DEMAND: 23880

RIDER 5 AIR COND. CREDITS

CREDIT PER USE OF TRANSMISSION LINE
PER CONTRACT 6/26/50

M-3020 (REV. 7/93) Customer Accounts

METER READING DATES
3/31/94 TO 4/29/94
NEXT SCHEDULED READING DATE
6/1/94
DUE
6/9/94

BALTIMORE GAS AND ELECTRIC COMPANY
P.O. BOX 630632
BALTIMORE, MARYLAND 21263

5600 MARYLAND BLVD *SECT AA 9722
U S DEPT OF THE ARMY 6940
DAAD 05-70-C-0096 WC
ATTN STEAP-SV -RP
ABERDEEN PRV GRND MD 21005

ELECTRIC SCHEDULE P TIME-OF-DAY (TOD) BILL

	JUN-SEPT —		DAYS	OCT-MAY — 29		DAYS	TOTAL	
	(1) UNITS	(2) RATE	(3)=(1)X(2) AMOUNT $	(4) UNITS	(5) RATE	(6)=(4)X(5) AMOUNT $	(7)=(1)+(4) KWH	(8)=(3)+(6) NET AMT.
A. Customer Charge Per Month	—	—	—	—	—	—	—	$750.00
B. Demand Charges:	KW	Per KWH		KW	Per KW			
Production & Transmission		$ 12.09		19500	$ 5.99	116805.00		$ 116805.00
Distribution		$ 2.33		19260	$ 2.33	44875.80		$ 44875.80
C. ENERGY CHARGES:	KWH	Per KWH		KWH	Per KWH			
On-Peak		$ .03918		2340775	$ .02385	55827.48		55827.48
Intermediate Peak		$ .02870		1975527	$ .02165	42770.16		42770.16
Off-Peak		$ .01596		4615698	$ .01302	60096.39		60096.39
Total Energy Charges				8932000			8932000	$ 158694.03

FOR OFFICE USE ONLY	
TC	C/C
SCHED. CODE	
NO. OF METERS	
LATE PYMT. CHG.	
[illegible] CHARGE: [illegible] PLUS [illegible]	

DATE: 4/7
TIME: 11:00
DEMAND: 19500

CREDIT PER USE OF
TRANSMISSION LINE
PER CONTRACT 6/26/50

RIDER 5 AIR CONDITIONING CREDIT

Fuel Rate - Total Energy KWH@	.01296	115758.72
Sub-Total		$ 436883.55
County Surcharge		
[illegible]		0
Elec. Envir. Surcharge		1000.00
Sub-Total		$ 437883.55
[illegible]		
[illegible]		731.00 CR
Total Electric Gross:	Net	
$ 437152.55	$	52.55

M-7020 (REV. 7/91) Customer Accounts

METER READING DATES
4/29/94 to 6/1/94

NEXT SCHEDULED READING DATE
6/30/94

DUE
6/28/94

BALTIMORE GAS AND ELECTRIC COMPANY
P.O. BOX 630632
BALTIMORE, MARYLAND 21263

U S DEPT OF THE ARMY 9722
DAAD 05-70-C-0096 6940
ATTN STEAP-SV-RP W C
ABERDEEN PRV GRND MD 21005

ELECTRIC SCHEDULE P TIME-OF-DAY (TOD) BILL

	JUN-SEPT — 1 DAYS			OCT-MAY — 32 DAYS			TOTAL	
	(1) UNITS	(2) RATE	(3)=(1)X(2) AMOUNT $	(4) UNITS	(5) RATE	(6)=(4)X(5) AMOUNT $	(7)=(1)+(4) KWH	(8)=(3)+(6) NET AMT.
A. Customer Charge Per Month	—	—	—	—	—	—	—	$750.00
B. Demand Charges:	KW	Per KWH		KW	Per KW			
Production & Transmission	0	$ 12.09	-	20420	$ 5.99	122315.80		$ 122315.80
Distribution		$ 2.33		21660	$ 2.33	50467.80		$ 50467.80
C. ENERGY CHARGES:	KWH	Per KWH		KWH	Per KWH			
On-Peak	0	$ .03918	0	2520007	$ .02385	60102.17		60102.17
Intermediate Peak	21162	$ .02870	607.35	2225199	$ .02165	48175.56		48782.91
Off-Peak	81680	$ .01596	1303.61	5071952	$ .01302	66036.82		67340.43
Total Energy Charges	102842			9817158			9920000	$ 176225.51

FOR OFFICE USE ONLY	
TC	C/C
SCHED. CODE	
NO. OF METERS	
LATE PYMT. CHG.	
MINIMUM CHARGE: $750.00 PLUS DEMAND CHARGE	

DATE: 5/25/94
TIME: 11:00
DEMAND: 22020

Rider 5 Air Conditioning Credit

Credit Per use of transmission line per contract 6/26/50

Fuel Rate - Total Energy KWH@	.01296	128563.20
Sub-Total		$ 478322.31
County Surcharge		
[illegible]		6220.00CR
Elec. Envir. Surcharge		1000.00
Sub-Total		$ 473102.31
State Tax		
[illegible]		731.00CR
Total Electric Gross:	Net:	
$ 472371.31	$ 472371.31	

METER READING DATES
6/1/94 to 6/30/94

NEXT SCHEDULED READING DATE
8/1/94

DUE
7/27/94

BALTIMORE GAS AND ELECTRIC COMPANY
P.O. BOX 630632
BALTIMORE, MARYLAND 21263

U S DEPT OF THE ARMY
DAAD 05-70-C-0096
ATTN STEAP-SV-RP
ABERDEEN PRV GRND MD 21005

9722
6940
W C

• ELECTRIC SCHEDULE P TIME-OF-DAY (TOD) BILL

	JUN-SEPT 29 Days			OCT-MAY Days			Total	
	(1) UNITS	(2) RATE	(3)=(1)x(2) AMOUNT $	(4) UNITS	(5) RATE	(6)=(4)x(5) AMOUNT $	(7)=(1)+(4) KWH	(8)=(3)+(6) NET AMT
A. Customer Charge Per Month								$750.00
B. Demand Charges:	KW	Per KW		KW	Per KW			
Production & Transmission	26460	$12.09	319901.40		$5.99			319901.4
Distribution	26080	$ 2.33	60766.40		$2.33			60766.4
C. ENERGY CHARGES:	KWH	Per KWH		KWH	Per KWH			
On-Peak	4343732	$.03893	169101.49		$.02360			169101.4
Intermediate Peak	2260535	$.02845	64312.22		$.02140			64312.2
Off-Peak	4840733	$.01571	76047.92		$.01277			76047.9
Total Energy Charges	11445000						11445000	309461.6

Fuel Rate Total Energy KWH@ .01296 148327.2

Sub-Total 839206.4

County Surcharge 6220.0

Rider 5 Air Conditioning Credit

Elec. Envir. Surcharge 1000.

Sub-Total 833986.

Credit per use of transmission line per contract 6/26/50 731.

City/County Tax

Total Electric Gross: $ 833255.63 Net: 833255.

FOR OFFICE USE ONLY	
TC	C/C
SCHED. CODE	
NO. OF METERS	
LATE PYMT. CHG.	
MINIMUM CHARGE: $750.00 PLUS DEMAND CHARGE	

Date: 6/15/94
Time: 13:30
Demand: 26460

7/94

METER READING DATES
6/30/94 TO 8/1/94

NEXT SCHEDULED READING DATE
8/31/94

DUE
8/24/94

BALTIMORE GAS AND ELECTRIC COMPANY
P.O. BOX 630602
BALTIMORE, MARYLAND 21263

U S DEPT OF THE ARMY
DAAD 05-70-C-0096
ATTN STEAP-SV-RP
ABERDEEN PRV GRND MD 21005

ELECTRIC SCHEDULE P TIME-OF-DAY (TOD) BILL

	JUN-SEPT 32 Days			OCT-MAY Days			Total	
	(1) UNITS	(2) RATE	(3)=(1)x(2) AMOUNT $	(4) UNITS	(5) RATE	(6)=(4)x(5) AMOUNT $	(7)=(1)+(4) KWH	(8)=(3)+(6 NET A
A. Customer Charge Per Month								$750.
B. Demand Charges:	KW	Per KW		KW	Per KW			
Production & Transmission	25720	$12.09	310954.80		$5.99			310954
Distribution	25320	$ 2.33	58995.60		$2.33			58995
C. ENERGY CHARGES:	KWH	Per KWH		KWH	Per KWH			
On-Peak	4462444	$.03893	173722.94		$.02360			173722.
Intermediate Peak	2253523	$.02845	64112.73		$.02140			64112.
Off-Peak	6125033	$.01571	96224.27		$.01277			96224.
Total Energy Charges	12841000						12841000	334059.

FOR OFFICE USE ONLY	
TC	C/C
SCHED. CODE	
NO. OF METERS	
LATE PYMT. CHG.	
MINIMUM CHARGE: $750.00 PLUS DEMAND CHARGE	

DEMAND: 25720
DATE: 7/14/94
TIME: 13:30

RIDER #5 AIR CONDITIONING CREDITXXXXXXXXXXXXXXXX

CREDIT PER USE OF TRANSMISSION LINE PER CONTRACT 6/26/50

Fuel Rate Total Energy	KWH@ .01296	166419.
	Sub-Total	871179.
	County Surcharge	
	Supplemental Charge	6220.
	Elec. Envir. Surcharge	1000.
	Sub-Total	865959.
	XXXXXXXX	
	City/County Tax	731.
Total Electric Gross:	Net:	
$ 865228.70		865228.

7/94

METER READING DATES
8/1/94 to 8/31/94

NEXT SCHEDULED READING DATE
10/3/94

DUE
9/27/94

BALTIMORE GAS AND ELECTRIC COMPANY
P.O. BOX 630632
BALTIMORE, MARYLAND 21263

5600 MARYLAND BLVD *SECT AA
U S DEPT OF THE ARMY
DAAD 05-70-C-0096
ATTN STEAP-FE-B
ABERDEEN PRV GRND MD 21005

97
69
W

ELECTRIC SCHEDULE P TIME-OF-DAY (TOD) BILL

	JUN-SEPT 30 Days			OCT-MAY Days			Total	
	(1) UNITS	(2) RATE	(3)=(1)x(2) AMOUNT $	(4) UNITS	(5) RATE	(6)=(4)x(5) AMOUNT $	(7)=(1)+(4) KWH	(8)=(3)+(6) NET AM
A. Customer Charge Per Month								$750.0
B. Demand Charges:	KW	Per KW		KW	Per KW			
Production & Transmission	25060	$12.09	302975.40		$5.99			302975.
Distribution	24700	$ 2.33	57551.00		$2.33			57551.
C. ENERGY CHARGES:	KWH	Per KWH		KWH	Per KWH			
On-Peak	4260778	$.03893	165872.09		$.02360			165872.
Intermediate Peak	2232816	$.02845	63523.62		$.02140			63523.
Off-Peak	5057406	$.01571	79451.85		$.01277			79451.
Total Energy Charges	11551000						11551000	308847.

DATE	TIME	KW
8/4	13:45	25060

Fuel Rate Total Energy	KWH@ .01296	149700.
	Sub-Total	819824.
	County Surcharge	
	[illegible] Charges	6220
RIDER #5 AIR CONDITIONING CREDIT	Elec. Envir. Surcharge	1000
	Sub-Total	814604
	[illegible]	731
	City/County Tax	
	Total Electric Gross:	Net:
	$ 813873.92	813873

FOR OFFICE USE ONLY	
TC	C/C
SCHED. CODE	
NO. OF METERS	
LATE PYMT. CHG.	
MINIMUM CHARGE: $750.00 PLUS DEMAND CHARGE	

CREDIT FOR USE OF TRANSMISSION LINE PER CONTRACT 6/26/50

(FORM EL)(83-336)rev 7/94

METER READING DATES
8/31/94 TO 10/3/94
NEXT SCHEDULED READING DATE
11/1/94
DUE
11/3/94

BALTIMORE GAS AND ELECTRIC COMPANY
P.O. BOX 630632
BALTIMORE, MARYLAND 21263

5600 MARYLAND BLVD *SECT AA 9722
U S DEPT OF THE ARMY 6940
DAAD 05-70-C-0096 WC
ATTN STEAP-FE-B
ABERDEEN PRV GRND MD 21005

ELECTRIC SCHEDULE P TIME-OF-DAY (TOD) BILL

	JUN-SEPT 30 Days			OCT-MAY 3 Days			Total	
	(1) UNITS	(2) RATE	(3)=(1)x(2) AMOUNT $	(4) UNITS	(5) RATE	(6)=(4)x(5) AMOUNT $	(7)=(1)+(4) KWH	(8)=(3)+(6) NET AMT.
A. Customer Charge Per Month								$750.00
B. Demand Charges:	KW	Per KW		KW	Per KW			
Production & Transmission	20509	$12.09	247953.81	1620	$5.99	9703.80		257657.61
Distribution	22200	$ 2.33	51726.00		$2.33			51726.00
C. ENERGY CHARGES:	KWH	Per KWH		KWH	Per KWH			
On-Peak	3901954	$.03893	151903.07	69935	$.02360	1650.47		153553.54
Intermediate Peak	1990777	$.02845	56637.61	31239	$.02140	668.51		57306.12
Off-Peak	4515457	$.01571	70937.83	626638	$.01277	8002.17		78940.00
Total Energy Charges	10408188			727812			11136000	289799.66

FOR OFFICE USE ONLY	
TC	C/C
SCHED. CODE	
NO. OF METERS	
LATE PYMT. CHG.	
MINIMUM CHARGE: $750.00 PLUS DEMAND CHARGE	

Fuel Rate Total Energy	KWH@ .01296	144322.56
	Sub-Total	744255.83
	County Surcharge	
RIDER #5 AIR CONDITIONING CREDIT		1000.00
	Elec. Envir. Surcharge	
	Sub-Total	745255.83
CREDIT FOR USE OF TRANSMISSION LINE PER CONTRACT 6/26/50		731.00CR
	City/County Tax	
	Total Electric Gross:	Net:
	$ 744524.83	744524.83

DEMAND PRORATION-SUMMER
22560 X 30/33 = 20509

DEMAND PRORATION-NON-SUMMER
17820 X 3/33 = 1620

	SUMMER	NON-SUMMER
DATE	9/14/94	10/3/94
TIME	15:00	11:00
DEMAND	20509	1620

7/94

METER READING DATES

10/3/94 TO 11/1/94

NEXT SCHEDULED READING DATE

12/2/94

DUE

12/13/94

BALTIMORE GAS AND ELECTRIC COMPANY
P.O. BOX 630632
BALTIMORE, MARYLAND 21263

5900 WESTWOOD RD *SECT EA 9722
U S DEPT OF THE ARMY 6960
DAAD 05-70-C-0096 . WC
ATTN STEAP-FE-B
ABERDEEN PRV GRD MD 21005

ELECTRIC SCHEDULE P TIME-OF-DAY (TOD) BILL

	JUN-SEPT Days			OCT-MAY 29 Days			Total	
	(1) UNITS	(2) RATE	(3)=(1)x(2) AMOUNT $	(4) UNITS	(5) RATE	(6)=(4)x(5) AMOUNT $	(7)=(1)+(4) KWH	(8)=(3)+(6) NET AMT.
A. Customer Charge Per Month								$750.00
B. Demand Charges:	KW	Per KW		KW	Per KW			
Production & Transmission		$12.09		11806	$5.99	70717.94		70717.94
Distribution		$ 2.33		-	$2.33			
C. ENERGY CHARGES:	KWH	Per KWH		KWH	Per KWH			
On-Peak	3320	$.03893	129.25	1558772	$.02360	36787.02		36916.27
Intermediate Peak	1840	$.02845	52.35	1329896	$.02140	28459.77		28512.12
Off-Peak	1600	$.01571	25.14	3059692	$.01277	39072.27		39097.41
Total Energy Charges	6760			5948360			5955120	104525.80

Fuel Rate Total Energy	KWH@ .01227	73069.32
	Sub-Total	249063.06
	County Surcharge	
	XXXXXXXXXXXXXXXX	
	Elec. Envir. Surcharge	893.27
	Sub-Total	249956.33
	XXXXXXX	731.00 CR
	City/County Tax	
	Total Electric Gross:	Net:
	$ 249225.33	249225.33

FOR OFFICE USE ONLY	
TC	C/C
SCHED. CODE	
NO. OF METERS	
LATE PYMT. CHG.	
MINIMUM CHARGE: $750.00 PLUS DEMAND CHARGE	

DATE: 10/20/94
TIME: 11:00
DEMAND KW 11806

CREDIT FOR USE OF TRANSMISSION LINE PER CONTRACT DATED 6/26/50

(FORMFL)(8)-326. /94

11/1/94 TO 12/2/94

NEXT SCHEDULED READING DATE
1/3/95

DUE
1/4/95

BALTIMORE GAS AND ELECTRIC COMPANY
P.O. BOX 630632
BALTIMORE, MARYLAND 21263

US DEPT OF THE ARMY 6940
DAAD 05-70-C-0096 WC
ATTN STEAP-FE-B
ABERDEEN PRV GRD MD 21005

ELECTRIC SCHEDULE P TIME-OF-DAY (TOD) BILL

	JUN-SEPT Days			OCT-MAY 31 Days			Total	
	(1) UNITS	(2) RATE	(3)=(1)x(2) AMOUNT $	(4) UNITS	(5) RATE	(6)=(4)x(5) AMOUNT $	(7)=(1)+(4) KWH	(8)=(3)+(6) NET AMT.
A. Customer Charge Per Month								$750.00
B. Demand Charges:	KW	Per KW		KW	Per KW			
Production & Transmission		$12.09		19440	$5.99	116445.60		116445.60
Distribution		$ 2.33		-	$2.33	-		-
C. ENERGY CHARGES:	KWH	Per KWH		KWH	Per KWH			
On-Peak		$.03893		2624416	$.02360	61936.22		61936.22
Intermediate Peak		$.02845		2091784	$.02140	44764.18		44764.18
Off-Peak		$.01571		4878800	$.01277	62302.28		62302.28
Total Energy Charges				9595000			9595000	169002.68

FOR OFFICE USE ONLY	
TC	C/C
SCHED. CODE	
NO. OF METERS	
LATE PYMT. CHG.	
MINIMUM CHARGE: $750.00 PLUS DEMAND CHARGE	

RIDER #5 AIR CONDITIONING CREDIT

DATE: 12/2/94
TIME: 8:15
DEMAND: 19440
CREDIT FOR USE OF TRANSMISSION LINE
PER CONTRACT 6/26/50.

Fuel Rate Total Energy	KWH@	117730.65
	Sub-Total	403928.93
[illegible]		0.00
[illegible]		1000.00
Elec. Envir. Surcharge		404928.93
	Sub-Total	
[illegible]		731.00
Total Electric Gross:		Net:
	$ 404197.93	404197.93

(FORM PT)(83-326)rev 7/94

METER READING DATES
12/2/94 TO 1/3/95
NEXT SCHEDULED READING DATE
1/31/95
DUE
2/13/95

BALTIMORE GAS AND ELECTRIC COMPANY
P.O. BOX 64844
BALTIMORE, MARYLAND 21264-4844

U S DEPT OF THE ARMY
DAAD 05-70-C-0096
ATTN STEAP-FE-B
ABERDEEN PRV GRND MD 21005

ELECTRIC SCHEDULE P — TIME-OF-DAY (TOD) BILL

	JUN-SEPT		Days	OCT-MAY 32		Days	Total	
	(1) UNITS	(2) RATE	(3)=(1)x(2) AMOUNT $	(4) UNITS	(5) RATE	(6)=(4)x(5) AMOUNT $	(7)=(1)+(4) KWH	(8)=(3)+(6) NET AMT.
A. Customer Charge Per Month								$750.00
B. Demand Charges:	KW	Per KW		KW	Per KW			
Production & Transmission		$12.09		21120	$5.99	126508.80		126508.80
Distribution		$ 2.33		20760	$2.33	48370.80		48370.80
C. ENERGY CHARGES:	KWH	Per KWH		KWH	Per KWH			
On-Peak		$.03893		2631487	$.02360	62103.09		62103.09
Intermediate Peak		$.02845		2012328	$.02140	43063.82		43063.82
Off-Peak		$.01571		6157185	$.01277	78627.25		78627.25
Total Energy Charges				10801000			10801000	183794.16

FOR OFFICE USE ONLY	
TC	C/C 4
SCHED. CODE	
NO. OF METERS	
LATE PYMT. CHG.	
MINIMUM CHARGE: $750.00 PLUS DEMAND CHARGE	

RIDER #5 AIR CONDITIONING CREDIT

CREDIT FOR USE OF TRANSMISSION LINE PER CONTRACT DATED 6/26/50

DATE: 12/13/94
TIME: 10:00
DEMAND: 21120

Fuel Rate Total Energy	KWH@ .01227	132528.27
	Sub-Total	491952.03
	County Surcharge	0
	Supp. Serv. Charge	1000.00
	Elec. Envir. Surcharge	492952.03
	Sub-Total	
	[illegible]	731.00CR
	Total Electric Gross:	Net:
	$ 492221.03	492221.03

(FORM PPL)(83-336)rev 7/94

METER READING DATES
1/3/95 TO 1/31/95
NEXT SCHEDULED READING DATE
3/2/95
DUE
3/2/95

BALTIMORE GAS AND ELECTRIC COMPANY
P.O. BOX 64844
BALTIMORE, MARYLAND 21264-4844

U.S DEPT OF THE ARMY
DAAD 05-70-C-0096
ATTN STEAP-FE-B
ABERDEEN PRV GRND MD 21005

6940
WC

ELECTRIC SCHEDULE P TIME-OF-DAY (TOD) BILL

	JUN-SEPT Days			OCT-MAY 28 Days			Total	
	(1) UNITS	(2) RATE	(3)=(1)x(2) AMOUNT $	(4) UNITS	(5) RATE	(6)=(4)x(5) AMOUNT $	(7)=(1)+(4) KWH	(8)=(3)+(6) NET AMT.
A. Customer Charge Per Month								$750.00
B. Demand Charges:	KW	Per KW		KW	Per KW			
Production & Transmission		$12.09		23400	$5.99	140166.00		140166.00
Distribution		$ 2.33		23040	$2.33	53683.20		53683.20
C. ENERGY CHARGES:	KWH	Per KWH		KWH	Per KWH			
On-Peak		$.03893		2884895	$.02360	68083.52		68083.52
Intermediate Peak		$.02845		2271744	$.02140	48615.32		48615.32
Off-Peak		$.01571		5480361	$.01277	69984.21		69984.21
Total Energy Charges				10637000			10637000	186683.05

Fuel Rate Total Energy	KWH@ .01227	130515.99
	Sub-Total	511798.24
	County Surcharge	0
	XXXXXXXXXXXXXXX	1000.00
	Elec. Envir. Surcharge	512798.24
	Sub-Total	-
	XXXXXXXX	731.00 C
	XXXXXXXXXXXXXX	Net:
	Total Electric Gross:	$ 512067.24 512067.24

FOR OFFICE USE ONLY	
TC	C/C
SCHED. CODE	
NO. OF METERS	
LATE PYMT. CHG.	
MINIMUM CHARGE: $750.00 PLUS DEMAND CHARGE	

RIDER #5 AIR CONDITIONING CREDIT

CREDIT FOR USE OF TRANSMISSION LINE
PER CONTRACT DATED 6/26/50

DATE: 1/5/95
TIME: 8:30
DEM KW: 23400

(FORM#1)" 7/94

METER READING DATES
1/31/95 to 3/2/95
NEXT SCHEDULED READING DATE
3/31/95
DUE
3/29/95

BALTIMORE GAS AND ELECTRIC COMPANY
P.O. BOX 64844
BALTIMORE, MARYLAND 21264-4844

5600 MARYLAND BLVD *SECT AA
U S DEPT OF THE ARMY
DAAD 05-70-C-0096
ATTN STEAP-FE-B
ABERDEEN PRV GRND MD 21005

9726
6940

ELECTRIC SCHEDULE P TIME-OF-DAY (TOD) BILL

	JUN-SEPT Days			OCT-MAY 30 Days			Total	
	(1) UNITS	(2) RATE	(3)=(1)x(2) AMOUNT $	(4) UNITS	(5) RATE	(6)=(4)x(5) AMOUNT $	(7)=(1)+(4) KWH	(8)=(3)+(6) NET AMT.
A. Customer Charge Per Month								$750.00
B. Demand Charges:	KW	Per KW		KW	Per KW			
Production & Transmission		$12.09		26400	$5.99	158136.00		158136.00
Distribution		$ 2.33		26020	$2.33	60626.60		60626.60
C. ENERGY CHARGES:	KWH	Per KWH		KWH	Per KWH			
On-Peak		$.03893		3233728	$.02360	76315.98		76315.98
Intermediate Peak		$.02845		2511655	$.02140	53749.42		53749.42
Off-Peak		$.01571		6528617	$.01277	83370.44		83370.44
Total Energy Charges				12274000			12274000	213435.84
Fuel Rate Total Energy				KWH@			.01227	150601.98
				Sub-Total				583550.42
				County Surcharge				0.00
RIDER #5 AIR CONDITIONING CREDIT				Supp Sch Charge				1000.00
				Elec. Envir. Surcharge				584550.42
				Sub-Total				
				State Tax				731.00CR
CREDIT FOR USE OF TRANSMISSION LINE PER CONTRACT DATED 6/26/50				City-County Tax				
				Total Electric Gross:			Net:	
						$ 583819.42		583819.42

FOR OFFICE USE ONLY	
TC	C/C
SCHED. CODE	
NO. OF METERS	
LATE PYMT. CHG.	
MINIMUM CHARGE: $750.00 PLUS DEMAND CHARGE	

(FORM P) 7/94

METER READING DATES
3/31/95 TO 5/1/95
NEXT SCHEDULED READING DATE
6/1/95
DUE
5/26/95

BALTIMORE GAS AND ELECTRIC COMPANY
P.O. BOX 64844
BALTIMORE, MARYLAND 21264-4844

5600 MARYLAND BLVD *SECT AA 9726
U S DEPT OF THE ARMY 6940
DAAD 05-70-C-0096 WC
ATTN STEAP-FE-B
ABERDEEN PRV GRND MD 21005

ELECTRIC SCHEDULE P TIME-OF-DAY (TOD) BILL

	JUN-SEPT		Days	OCT-MAY 31		Days	Total	
	(1) UNITS	(2) RATE	(3)=(1)x(2) AMOUNT $	(4) UNITS	(5) RATE	(6)=(4)x(5) AMOUNT $	(7)=(1)+(4) KWH	(8)=(3)+(6) NET AMT.
A. Customer Charge Per Month								
B. Demand Charges:	KW	Per KW		KW	Per KW			
Production & Transmission		$ 12.09		20940	$ 5.99	125430.60		125430.60
Distribution		$ 2.33		20580	$ 2.33	47951.40		47951.40
C. ENERGY CHARGES:	KWH	Per KWH		KWH	Per KWH			
On-Peak		$.03893		2467763	$.02360	58239.21		58239.21
Intermediate Peak		$.02845		1999204	$.02140	42782.97		42782.97
Off-Peak		$.01571		5445033	$.01277	69533.07		69533.07
Total Energy Charges				9912000			9912000	170555.25

FOR OFFICE USE ONLY	
TC	C/C
SCHED. CODE	
NO. OF METERS	
LATE PYMT. CHG.	
MINIMUM CHARGE: DEMAND CHARGE	

Fuel Rate Total Energy	KWH@ .01227	121620.24
Sub-Total		466307.49
County Surcharge		
RIDER #5 AIR CONDITIONING CREDIT	[illegible]	
Elec. Envir. Surcharge		1000.00
Sub-Total		467307.49
[illegible]		
CREDIT FOR USE OF TRANSMISSION LINE PER CONTRACT DATED 6/26/50	[illegible]	731.00CR
Total Electric Gross:	Net:	
$ 466576.49		466576.49

DATE: 4/5/95
TIME: 8:30
DEMAND: 20940

(FORMPEL)(83-326) Rev. 7/94

METER READING DATES
5/1/95 to 6/1/95
NEXT SCHEDULED READING DATE
6/30/95
DUE
7/24/94

BALTIMORE GAS AND ELECTRIC COMPANY
P.O. BOX 64844
BALTIMORE, MARYLAND 21264-4844

5600 MARYLAND BLVD *SECT AA 9726
U S DEPT OF THE ARMY 6940
DAAD 05-70-C-0096 W C
ATTN STEAP-FE-B
ABERDEEN PRV GRND MD 21005

CORRECTED BILL

ELECTRIC SCHEDULE P TIME-OF-DAY (TOD) BILL

CORRECTED BILL

	JUN-SEPT 1 Days			OCT-MAY 30 Days			Total	
	(1) UNITS	(2) RATE	(3)=(1)x(2) AMOUNT $	(4) UNITS	(5) RATE	(6)=(4)x(5) AMOUNT $	(7)=(1)+(4) KWH	(8)=(3)+(6) NET AMT.
A. Customer Charge Per Month								750.00
B. Demand Charges:	KW	Per KW		KW	Per KW			
Production & Transmission	617	$ 12.09	7459.53	20555	$ 5.99	123124.45		130583.98
Distribution		$ 2.33		21900	$ 2.33	51027.00		51027.00
C. ENERGY CHARGES:	KWH	Per KWH		KWH	Per KWH			
On-Peak	38004	$.03893	1479.50	2551242	$.02360	60209.31		61688.81
Intermediate Peak	51891	$.02845	1476.30	2225313	$.02140	47621.70		49098.00
Off-Peak	77665	$.01571	1220.12	4740885	$.01277	60541.10		61761.22
Total Energy Charges	167560			9517440			9685000	172548.03

Fuel Rate Total Energy	KWH@	.01227	118834.95
	Sub-Total		473743.96
	County Surcharge		
	[illegible]		6220.00C
	Elec. Envir. Surcharge		1000.00
	Sub-Total		468523.96
	[illegible] State Tax		731.00C
	[illegible]		
	Total Electric Gross:		Net:
		$ 467792.96	467792.96

FOR OFFICE USE ONLY	
TC	C/C
SCHED. CODE	
NO. OF METERS	
LATE PYMT. CHG.	
MINIMUM CHARGE:	
DEMAND CHARGE	

Rider #5 Air Conditioning Credit

Credit for use of transmission line per contract dated 6/26/50

DEMAND PRORATION SUMMER
19140 @ 1/31 = 617
DEMAND PRORATION NON-SUMMER
21240 @ 30/31 = 20555

SUMMER		NON-SUMMER	
DATE:	6/1	DATE:	5/25
TIME:	12:00	TIME:	11:00
DEMAND:	19140	DEMAND:	21240

(FORMPL)(6* Rev. 7/94

P.02

METER READING DATES
6/1/95 to 6/30/95
NEXT SCHEDULED READING DATE
8/2/95
DUE
8/3/95

BALTIMORE GAS AND ELECTRIC COMPANY
P.O. BOX 64844
BALTIMORE, MARYLAND 21264-4844

5600 MARYLAND BLVD *SECT AA 9726
U S DEPT OF THE ARMY 6940
DAAD 05-70-C-0096 W C
ATTN STEAP-FE-B
ABERDEEN PRV GRND MD 21005

ELECTRIC SCHEDULE P TIME-OF-DAY (TOD) BILL

	JUN-SEPT 29 Days			OCT-MAY Days			Total	
	(1) UNITS	(2) RATE	(3)=(1)x(2) AMOUNT $	(4) UNITS	(5) RATE	(6)=(4)x(5) AMOUNT $	(7)=(1)+(4) KWH	(8)=(3)+(6) NET AMT.
A. Customer Charge Per Month								$ 750.00
B. Demand Charges:	KW	Per KW		KW	Per KW			
Production & Transmission	24840	$ 12.09	300315.60		$ 5.99			300315.60
Distribution	24840	$ 2.33	57877.20		$ 2.33			57877.20
C. ENERGY CHARGES:	KWH	Per KWH		KWH	Per KWH			
On-Peak	3974633	$.03861	153460.58		.02328			153460.58
Intermediate Peak	2085533	$.02813	58666.04		.02108			58666.04
Off-Peak	4642834	$.01539	71453.22		.01245			71453.22
Total Energy Charges	10703000						10703000	283579.84

FOR OFFICE USE ONLY	
TC	C/C
SCHED. CODE	
NO. OF METERS	
LATE PYMT. CHG.	
MINIMUM CHARGE: $ 750.00 PLUS DEMAND CHARGE	

Rider 5 Air Conditioning Credit

Credit for use of transmission line per contract dated 6/26/50

Demand 24840
Date 6/21/95
Time 14:45

Fuel Rate Total Energy	KWH@	.01227	131325.81
	Sub-Total		773848.45
County Surcharge			
Supp. Serv. Charge			6220.00
Elec. Envir. Surcharge			1000.00
	Sub-Total		768628.45
State Tax			731.00CR
City/County Tax			
Total Electric Gross:		Net:	
		$ 767897.45	$ 767897.45

METER READING DATES
6/30/95 TO 8/2/95
NEXT SCHEDULED READING DATE
8/31/95
DUE
9/1/95

BALTIMORE GAS AND ELECTRIC COMPANY
P.O. BOX 64844
BALTIMORE, MARYLAND 21264-4844

5600 MARYLAND BLVD *SECT AA
U S DEPT OF THE ARMY
DAAD 05-70-C-0096
ATTN STEAP-FE-B
ABERDEEN PRV GRND MD 21005

9726
6940
WC

ELECTRIC SCHEDULE P TIME-OF-DAY (TOD) BILL

	JUN-SEPT 33 Days			OCT-MAY Days			Total	
	(1) UNITS	(2) RATE	(3)=(1)x(2) AMOUNT $	(4) UNITS	(5) RATE	(6)=(4)x(5) AMOUNT $	(7)=(1)+(4) KWH	(8)=(3)+(6) NET AMT.
A. Customer Charge Per Month								$ 750.00
B. Demand Charges:	KW	Per KW		KW	Per KW			
Production & Transmission	27180	$ 12.09	328606.20		$ 5.99			328606.20
Distribution	-	$ 2.33	-		$ 2.33			-
C. ENERGY CHARGES:	KWH	Per KWH		KWH	Per KWH			
On-Peak	4802092	$.03861	185408.77		.02328			185408.77
Intermediate Peak	2422091	$.02813	68133.42		.02108			68133.42
Off-Peak	6455817	$.01539	99355.02		.01245			99355.02
Total Energy Charges	13680000						13680000	352897.21

OFFICE USE ONLY	
FC TC	C/C
SCHED. CODE	
NO. OF METERS	
LATE PYMT. CHG.	

MINIMUM CHARGE:
$ 750.00 PLUS
DEMAND CHARGE

DATE: 7/26/95
TIME: 15:00
DEMAND: 27180

Fuel Rate Total Energy	KWH@ .01227	167853.60
	Sub-Total	850107.01
	County Surcharge	
RIDER 5 AIR CONDITIONING CREDIT		6220.00
	Elec. Envir. Surcharge	1000.00
	Sub-Total	844887.01
CREDIT FOR USE OF TRANSMISSION		731.00
LINE PER CONTRACT DATED 6/26/50	Total Electric Gross:	Net:
	$ 844156.01	844156.01

P.64

METER READING DATES
8/2/95 TO 8/31/95
NEXT SCHEDULED READING DATE
10/2/95
DUE
9/28/95

BALTIMORE GAS AND ELECTRIC COMPANY
P.O. BOX 64844
BALTIMORE, MARYLAND 21264-4844

5600 MARYLAND BLVD *SECT AA 9726
U S DEPT OF THE ARMY 6940
DAAD 05-70-C-0096 WC
ATTN STEAP-FE-B
ABERDEEN PRV GRND MD 21005

ELECTRIC SCHEDULE P TIME-OF-DAY (TOD) BILL

	JUN-SEPT 29 Days			OCT-MAY Days			Total	
	(1) UNITS	(2) RATE	(3)=(1)x(2) AMOUNT $	(4) UNITS	(5) RATE	(6)=(4)x(5) AMOUNT $	(7)=(1)+(4) KWH	(8)=(3)+(6) NET AMT.
A. Customer Charge Per Month								$ 750.00
B. Demand Charges:	KW	Per KW		KW	Per KW			
oduction & Transmission	26880	$ 12.09	324979.20		$ 5.99			324979.20
Distribution	26880	$ 2.33	62630.40		$ 2.33			62630.40
C. ENERGY CHARGES:	KWH	Per KWH		KWH	Per KWH			
On-Peak	4604218	$.03861	177768.86		.02328			177768.86
Intermediate Peak	2366799	$.02813	66578.06		.02108			66578.06
Off-Peak	5443983	$.01539	83782.90		.01245			83782.90
Total Energy Charges	12415000						12415000	328129.82

FOR OFFICE USE ONLY	
	C/C
CHED. ODE	
O. OF IETERS	
ATE PYMT. CHG.	
MINIMUM CHARGE: $ 750.00 PLUS D CHARGE	

Fuel Rate Total Energy	KWH@	.01143	141903.45
Sub-Total			858392.87
County Surcharge			
RIDER 5 AIR CONDITIONING CREDIT			6220.00 CR
Elec. Envir. Surcharge			1000.00
Sub-Total			853172.87
			731.00 CR
CREDIT FOR USE OF TRANSMISSION LINE PER CONTRACT DATED 6/26			
Total Electric Gross:		Net:	
		$ 852441.87	852441.87

DATE: 8/2/95
TIME: 14:15
DEMAND: 26880

DATES
to 10/2/95
ED READING DATE
5

BALTIMORE GAS AND ELECTRIC Company
P.O. BOX 64844
BALTIMORE, MARYLAND 21264-4844

DAAD 05-70-C-0090
ATTN STEAP-FE-B
ABERDEEN PRV GRND MD 21005

TIME-OF-DAY (TOD) BILL

C SCHEDULE P	JUN-SEPT 30 (1) UNITS	(2) RATE	(3)=(1)x(2) Days AMOUNT $	OCT-MAY 2 (4) UNITS	(5) RATE	(6)=(4)x(5) Days AMOUNT $	Total (7)=(1)+(4) KWH	Total (8)=(3)+(6) NET AMT.
								$ 750.00
ner Charge Per Month								
	KW	Per KW		KW	Per KW			276189.29
d Charges:	22838	$ 12.09	276111.42	13	$ 5.99	77.87		56758.80
ction & Transmission	24360	$ 2.33	56758.80		$ 2.33			
ibution								
	KWH	Per KWH		KWH	Per KWH			148805.76
RGY CHARGES:	3854073	$.03861	148805.76	0	.02328	0		56764.26
Peak	2017926	$.02813	56764.26	0	.02108	0		81682.67
rmediate Peak	5093725	$.01539	78392.43	264276	.01245	3290.24		287252.69
f-Peak	10965724			264276			11230000	128358.90
Total Energy Charges					Fuel Rate Total Energy	KWH@	.01143	749309.68
						Sub-Total		1000.00
						County Surcharge		750309.68
						Supp. Serv. Charge		731.00
						Elec. Envir. Surcharge		
						Sub-Total		
						XXXXXXXX		
						City/County Tax		
						Total Electric Gross:	Net:	749578.68
							$ 749578.68	

OFFICE USE ONLY	
	C/C
ED.	
DE	
OF TERS	
TE PYMT. CHG.	

IMUM CHARGE: 750.00 PLUS ND CHARGE

RIDER 5 AIR CONDITIONING CREDIT

CREDIT FOR USE OF TRANSMISSION LINE
PER CONTRACT DATED 6/26/50

DEMAND PRORATION SUMMER
24360 x 30/32 = 22838
DEMAND PRORATION NON-SUMMER
200 x 2/32 = 13

DATE: 8/31/95
TIME: 13:45
DEMAND: SUMMER - 22838
WINTER -

PD (Bldg
erman

TOTAL CONSUMP

252

ATTACHMENT 8.4
BG & E "BILLING INTERFACE DATA"

TGL310 *** THE LODESTAR BILLING INTERFACE (REL. 1.01) ***

JULY 1995 DEMAND BILLING - ELECTRIC DATE: 07/03/
BILLING-ID: 1100 ELECTRIC - METER TRANSLATION SUMMARY REPORT PAGE: 1
TRANS PERIOD FROM: 06/01 TO: 06/30

BILLING GROUP: W NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6940
TARIFF SCHEDULE: P CITY: ABERDEEN STATE: MD ZIP: 21005
TAX CLASS: 7 CITY/COUNTY CODE: 6

LODESTAR CUSTID	CH	MT SI	START TIME	STOP TIME	METER NUMBER	START INDEX	STOP INDEX	METER MULTIPLIER	METERED USE
1100011	1	1	06/01/95-12:05	06/30/95-10:47	50946244	86962.0	91375.0	1000.000000	4413000.0
1100012	2	1	06/01/95-12:05	06/30/95-10:47	50961016	70180.0	76470.0	1000.000000	6290000.0

TIME BILL

TGL310 *** THE LODESTAR BILLING INTERFACE (REL. 1.01) ***

JULY 1995 DEMAND BILLING - ELECTRIC DATE: 07/03/
BILLING-ID: 1100 TRANSLATION CONTROL SUMMARY PAGE: 1
TRANS PERIOD FROM: 06/01 TO: 06/30

BILLING GROUP: W NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6940
TARIFF SCHEDULE: P CITY: ABERDEEN STATE: MD ZIP: 21005
TAX CLASS: 7 CITY/COUNTY CODE: 6

RECORDER ID: 110001

CHAN	PULSE CONST	MT ST	METERED USE	TRANSLATED USE	PERCENTAGE DIFF		
1	30.000000	1	4413000	4413720	0.01632	START TIME - 06/01/95-12:05	EXPECTED NO INTERVALS: 2780
2	30.000000	1	6290000	6290670	0.01065	END TIME - 06/30/95-10:45	INSERTED NO INTERVALS: 0
						RECORDER STOP TIME - 10:47	RECORDED NO INTERVALS: 2779
						START - DAY OF WEEK - 5	MISSING NO INTERVALS : 1

	PULSES					CONSUMPTION				
DATE	CHAN 1 PULSES	CHAN 2 PULSES	CHAN 3 PULSES	CHAN 4 PULSES	TOTAL PULSES	CHAN 1 KWH	CHAN 2 KWH	CHAN 3 KWH	CHAN 4 KWH	TOTAL KWH
06/01/95	2510	3981			6491	75300.0	119430.0			194730.0
06/02/95	4774	7951			12725	143220.0	238530.0			381750.0
06/03/95	4227	6680			10907	126810.0	200400.0			327210.0
06/04/95	3932	6298			10230	117960.0	188940.0			306900.0
06/05/95	4717	8118			12835	141510.0	243540.0			385050.0
06/06/95	5015	7554			12569	150450.0	226620.0			377070.0
06/07/95	5130	8829			13959	153900.0	264870.0			418770.0
06/08/95	5336	8944			14280	160080.0	268320.0			428400.0
06/09/95	4608	7677			12285	138240.0	230310.0			368550.0
06/10/95	3987	5982			9969	119610.0	179460.0			299070.0
06/11/95	4591	6547			11138	137730.0	196410.0			334140.0
06/12/95	4874	7668			12542	146220.0	230040.0			376260.0
06/13/95	4570	7102			11672	137100.0	213060.0			350160.0
06/14/95	4780	7469			12249	143400.0	224070.0			367470.0
06/15/95	4692	7412			12104	140760.0	222360.0			363120.0
06/16/95	4707	7350			12057	141210.0	220500.0			361710.0
06/17/95	4032	6100			10132	120960.0	183000.0			303960.0
06/18/95	4269	6093			10362	128070.0	182790.0			310860.0
06/19/95	5277	8194			13471	158310.0	245820.0			404130.0
06/20/95	5689	8714			14403	170670.0	261420.0			432090.0
06/21/95	5884	9137			15021	176520.0	274110.0			450630.0
06/22/95	5520	8141			13661	165600.0	244230.0			409830.0
06/23/95	5774	6367			12141	173220.0	191010.0			364230.0
06/24/95	5438	5407			10845	163140.0	162210.0			325350.0
06/25/95	5757	5568			11325	172710.0	167040.0			339750.0
06/26/95	6679	7502			14181	200370.0	225060.0			425430.0
06/27/95	6160	7117			13277	184800.0	213510.0			398310.0
06/28/95	5763	6484			12247	172890.0	194520.0			367410.0
06/29/95	5987	6583			12570	179610.0	197490.0			377100.0
06/30/95	2445	2720			5165	73350.0	81600.0			154950.0
TOTAL	147124	209689			356813	4413720.0	6290670.0			10704390.0

TGL310 *** THE LODESTAR BILLING INTERFACE (REL. 1.01) ***

JULY 1995
BILLING-ID: 1100
TRANS PERIOD FROM: 06/01 TO: 06/30

DEMAND BILLING - ELECTRIC
TRANSLATION CONTROL - TOD USAGE SUMMARY

DATE: 07/03/
PAGE: 1

BILLING GROUP: W NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6940
TARIFF SCHEDULE: P CITY: ABERDEEN STATE: MD ZIP: 21005
TAX CLASS: 7 CITY/COUNTY CODE: 6

RECORDER ID: 110001
ADJUSTMENT OF TRANSLATION TO METER READINGS

CHAN	TRANS TOTAL		TRANSLATED USAGE BY PEAKS ON	INT	OFF	TRANSLATED PERCENTAGES ON	INT	OFF	METER TOTAL		METERED USAGE BY PEAKS ON	INT	OFF
1	4413720	SUM	1609800	868170	1935750	36.4726	19.6698	43.8576	4413000	SUM	1609536	868028	1935436
		NON								NON			
2	6290670	SUM	2365350	1217640	2707680	37.6009	19.3562	43.0429	6290000	SUM	2365097	1217505	2707398
		NON								NON			

MAX 60 MIN DEMAND SUMMARY

CHAN	DATE	TIME	DEMAND
1	06/06/95	22:00	12330
2	06/21/95	14:00	15300

A B

27630

TGL310 *** THE LODESTAR BILLING INTERFACE (REL. 1.01) ***

JULY 1995 — DEMAND BILLING - ELECTRIC — DATE: 07/03/
BILLING-ID: 1100 — DEMANDS AS TRANSLATED AND TOTALED — PAGE: 1
TRANS PERIOD FROM: 06/01 TO: 06/30
BILLING GROUP: W NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6940
TARIFF SCHEDULE: P CITY: ABERDEEN STATE: MD ZIP: 21005

1/4 HOUR ENDING	06/01	06/02	06/03	06/04	06/05	06/06	06/07	06/08	06/09	06/10	06/11	06/12	06/13	06/14	06/15
00:15		12240	12840	12120	11880	12120	12480	13440	13560	12360	12000	12960	11280	11280	12240
00:30		11880	12600	12120	11880	11880	12360	13200	13320	12240	11760	12840	11400	11160	12120
00:45		11880	12600	11640	11640	11880	12000	13200	13320	12000	11760	12840	11160	11040	12000
01:00		11520	12360	11760	11520	11760	12120	13080	13080	11880	11640	12600	11040	11040	11880
01:15		11640	12360	11640	11520	11640	11880	12840	12840	11760	11520	12600	11040	10920	11760
01:30		11520	12240	11400	11400	11640	11760	12960	12720	11760	11640	12600	11040	10920	11640
01:45		11640	12120	11520	11160	11400	11640	12720	12600	11640	11400	12480	10920	10680	11760
02:00		11520	12120	11280	11160	11400	11760	12720	12480	11640	11160	12480	10920	10800	11400
02:15		11280	12000	11280	11160	11400	11640	12480	12240	11520	11400	12360	10800	10800	11400
02:30		11400	12240	11280	11040	11400	11640	12600	12360	11520	11160	12480	10920	10680	11280
02:45		11280	12000	11160	11040	11160	11640	12360	12120	11640	11160	12480	10800	10800	11280
03:00		11400	12000	11160	11040	11160	11520	12360	12000	11280	11160	12120	10800	10800	11160
03:15		11280	12120	11160	10920	11280	11640	12480	11880	11640	11160	12480	10800	10680	11040
03:30		11280	11880	11160	10920	11160	11640	12240	11880	11280	11160	12240	10680	10920	11160
03:45		11160	11880	11040	10920	11040	11640	12240	11880	11280	11280	12120	10800	10680	11040
04:00		11400	11760	10920	10920	11160	11760	12360	12000	11280	10920	12240	10800	10680	11040
04:15		11280	11640	11160	11160	11280	11880	12360	11760	11400	11040	12120	10920	10920	11040
04:30		11520	11760	10920	11280	11280	11880	12600	12000	11280	10920	12480	10800	10920	11160
04:45		11520	11760	10920	11160	11520	12240	12480	12120	11280	11040	12480	11040	11160	11400
05:00		11640	11760	10920	11520	11640	12360	12840	12000	11160	11160	12480	11280	11040	11160
05:15		11880	11880	10800	11520	11880	12480	12840	12360	11280	10920	12600	11280	11280	11520
05:30		12120	11760	10800	11640	11880	12480	12960	12120	11280	11160	12720	11640	11520	11520
05:45		12120	11640	10440	11520	12000	12720	12960	11880	11160	11040	12840	11400	11280	11520
06:00		12120	11760	10560	11880	12120	12960	13320	12240	11040	10800	13200	11520	11760	11760
06:15		12840	12360	10560	12600	12960	13560	14160	12960	11760	11040	13800	12240	11640	12360
06:30		13320	12360	10680	12960	13560	14040	14760	13560	11760	11160	14280	12840	12000	12840
06:45		13920	12480	10800	13800	14160	15000	15480	13920	11640	11280	15120	13440	12360	13320
07:00		14880	12480	10800	14640	14760	15720	16680	14640	12000	11160	15840	14520	13200	14160
07:15		15600	12720	11160	15600	15720	16440	17520	15360	12000	11280	16920	15240	14040	14880
07:30		16440	12720	11280	16680	16320	17280	18360	15840	12000	11520	17880	15840	14760	15600
07:45		17160	12840	11520	17520	17040	18000	19440	16560	11880	11640	18600	16680	16200	16080
08:00		17640	12960	11760	18240	17520	19200	20280	16800	11880	11760	19560	17040	16920	16800
08:15		18120	13080	12120	18600	18000	19440	20880	17280	12120	12120	20040	17400	17280	17040
08:30		18240	13440	12480	18960	18240	19800	21480	17280	11880	12480	20280	17760	17760	17280
08:45		18720	13440	12360	19320	18360	20040	21600	17640	12120	12840	20400	17760	17640	17520
09:00		18840	13680	12600	19440	18480	20280	21960	17760	12120	13080	20760	17880	18000	17880
09:15		19320	13920	12960	19800	18840	20640	22320	18000	12240	13080	21000	18120	18240	18240
09:30		19200	14400	13080	20160	19080	21000	22440	18120	12600	13440	20640	18000	18360	18360
09:45		19680	14280	13080	20280	18840	21000	22680	17880	12600	13560	21000	18240	18720	18480
10:00		19800	14520	13440	20520	19080	21360	22800	18480	12720	13680	20880	18480	18840	18360
10:15		20160	14880	13080	20760	19560	21600	22800	18840	12840	13920	21120	18840	19200	18480
10:30		20400	14880	13680	20760	19440	21840	23040	18600	13080	14160	21360	18840	19200	18960
10:45		20280	15120	13560	21000	19560	22080	23160	18720	13080	14520	21480	18840	19320	18720
11:00		20280	15240	13800	21120	19800	22320	23400	18840	12960	14400	21240	18720	19320	18600
11:15		20400	15360	13800	21360	20040	22560	23040	18600	13200	14760	20760	18720	19320	18960
11:30		20160	15480	13800	21240	19920	22560	22800	18600	12840	14880	20280	18360	19440	18600
11:45		20040	15360	13920	21000	19920	22440	22680	18360	13080	15240	19920	18240	19320	18480
12:00		20160	15600	13800	21120	20160	22440	23160	18480	13080	15240	20040	18120	19440	18240
PAGE TOT		178530	155670	142320	179820	176610	189690	200640	176970	143520	145650	191010	168810	168570	170880

TGL310 *** THE LODESTAR BILLING INTERFACE (REL. 1.01) ***

JULY 1995
BILLING-ID: 1100
TRANS PERIOD FROM: 06/01 TO: 06/30
BILLING GROUP: W
ROUTE: 9726 FOLIO: 6940
TARIFF SCHEDULE: P

DEMAND BILLING - ELECTRIC
DEMANDS AS TRANSLATED AND TOTALED

DATE: 07/03/
PAGE: 2

NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
CITY: ABERDEEN STATE: MD ZIP: 21005

1/4 HOUR ENDING	06/01	06/02	06/03	06/04	06/05	06/06	06/07	06/08	06/09	06/10	06/11	06/12	06/13	06/14	06/15
	R	S	M	T	W	R	F	S	S	M	T	W	T	W	
12:15	18960	20280	15600	13920	21240	20040	22680	23160	18720	12960	15480	19920	18480	19440	18480
12:30	19200	20040	15600	13920	21120	20160	22680	23040	18720	13080	15600	20040	18360	19560	18480
12:45	19320	20520	15720	14040	21360	20280	22800	23400	18840	13440	15720	19920	18480	19800	18600
13:00	19200	20640	15720	14160	21240	20160	22920	23280	19200	13440	15840	19800	18360	19920	18720
13:15	19560	21000	15720	13800	21480	20400	23160	23640	19560	13320	15960	20040	18360	20160	19080
13:30	19680	21120	15600	14040	21360	20640	23280	23640	19440	13320	15960	19800	18600	20400	19200
13:45	19680	21240	15600	14040	21360	20520	23040	23520	19560	13200	15960	19680	18600	20400	19200
14:00	19560	21480	15720	14040	21120	20520	23040	23760	19440	13200	16200	19680	18480	20400	19320
14:15	19800	21360	15600	14040	21360	20280	23160	23640	19320	13200	16320	19560	18480	20520	19200
14:30	19680	21480	15480	14160	21360	20280	23160	23640	19320	13200	16200	19320	18480	20400	19200
14:45	19800	21240	15240	14160	21120	20400	23520	23400	19440	13080	16440	19320	18480	20640	19200
15:00	19560	21000	15360	14280	21240	20160	23520	23400	18960	13080	16200	19200	18240	20640	19320
15:15	19320	21120	15360	13920	21240	20040	23280	23400	18840	13200	16200	19200	18120	20280	19200
15:30	19440	20520	15120	14040	21120	19800	23280	23280	18720	13200	16560	18840	17880	20520	19320
15:45	19320	20040	15240	14160	21000	19800	23040	22920	18120	13200	16200	18840	17520	20160	19080
16:00	19080	19560	15120	14040	20640	19680	22560	23040	17880	13200	16320	17880	17400	20040	18840
16:15	18600	18960	15240	13800	20040	19320	21960	22440	17520	13080	16560	17520	16920	19440	18720
16:30	18240	18120	15240	14040	19320	18720	21120	21480	17040	13440	16560	16680	16440	18600	17760
16:45	17280	17520	15240	13800	18000	17640	20160	19680	16320	13080	16440	15720	15600	17760	17040
17:00	16800	17040	15120	13920	17640	17160	19560	18960	15960	13320	16800	15000	15000	17160	16800
17:15	16560	16800	14880	13920	16920	16560	19080	18120	15720	13560	16560	14520	14640	16680	16320
17:30	16080	16560	15000	14040	16560	16200	18840	18000	15600	13320	16320	14400	14640	16440	16200
17:45	15960	16320	14640	14040	16200	16080	18480	17400	15360	13200	16560	14160	14400	16080	15840
18:00	15600	15960	14520	14040	16200	15840	18120	17520	15360	13320	16320	13800	14280	15720	15600
18:15	15240	15720	14040	14040	15720	15840	17760	16920	14880	12840	16200	13560	14040	15480	15360
18:30	14880	15240	14160	13800	15360	15360	17640	16800	15000	12960	15960	13680	13800	15000	15240
18:45	15000	15000	13920	13920	15360	15360	17640	16440	14640	12840	15960	13440	13800	14880	14880
19:00	14760	15120	13800	13680	14880	15240	17280	16440	14520	12720	15720	13320	13680	14760	14760
19:15	14520	14640	13440	13680	14880	15000	17040	16320	14160	12720	15840	13200	13560	14520	14760
19:30	14400	14640	13320	13440	14880	15000	16800	16200	14280	12480	15840	13080	13440	14400	14400
19:45	14160	14520	13440	13440	14760	14640	16800	15960	14040	12720	15720	13080	13320	14160	14280
20:00	14160	14520	13320	13440	14760	14760	16680	16320	13920	12480	15720	13200	13440	14280	14040
20:15	14160	14400	13200	13560	14640	14400	16800	16560	13920	12600	15600	13080	13440	14040	14040
20:30	14040	14280	13440	13440	14520	13920	16560	16680	13800	12720	15840	12960	13320	14040	13800
20:45	14280	14400	13560	13800	14520	14400	16680	16680	14160	12840	16200	12960	13440	14040	13920
21:00	14400	14520	13680	14040	14640	14400	17160	17040	14400	12960	16320	13200	13440	14400	14280
21:15	14280	14520	13560	13920	14760	14520	17040	16800	14160	12960	15840	13080	13320	14400	14160
21:30	14280	14520	13440	14040	14400	14280	16920	16800	14160	12960	15480	13200	13320	14400	14040
21:45	13920	14400	13440	13800	14400	14040	16680	16560	14160	13080	15240	12960	13080	14160	13800
22:00	13800	14040	13440	13680	14040	13920	16200	16440	13920	12720	15000	13200	12960	13800	13680
22:15	13560	14040	13200	13560	13800	14160	15960	15840	13680	12720	14640	12720	12480	13680	13320
22:30	13320	13920	13080	13200	13440	13800	15480	15480	13560	12600	14400	12720	12600	13560	13200
22:45	13200	13920	12960	13200	13440	13440	15120	15240	13440	12720	14520	12240	12240	13200	12840
23:00	12720	13680	12720	12840	13080	13320	14880	14880	13320	12720	14040	12360	12120	13080	12720
23:15	12600	13440	12600	12600	12840	13080	14640	14520	12960	12480	14040	11880	11760	12720	12600
23:30	12480	13320	12480	12360	12720	12960	14280	14520	12960	12240	13680	12000	11880	12600	12240
23:45	12360	12960	12240	12360	12600	12720	14040	13920	12720	12360	13560	11520	11400	12600	12120
24:00	12120	13200	12000	12120	12240	12600	13800	13920	12600	12120	13320	11520	11280	12240	11760
PAGE TOT	194730	203220	171540	164580	205230	200460	229080	227760	191580	155550	188490	185250	181350	198900	192240
DAY TOT	194730	381750	327210	306900	385050	377070	418770	428400	368550	299070	334140	376260	350160	367470	363120

TGL310 *** THE LODESTAR BILLING INTERFACE (REL. 1.01) ***

JULY 1995 — DEMAND BILLING - ELECTRIC — DATE: 07/03/9
BILLING-ID: 1100 — DEMANDS AS TRANSLATED AND TOTALED — PAGE: 3
TRANS PERIOD FROM: 06/01 TO: 06/30
BILLING GROUP: W NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6940
TARIFF SCHEDULE: P CITY: ABERDEEN STATE: MD ZIP: 21005

1/4 HOUR ENDING	06/16	06/17	06/18	06/19	06/20	06/21	06/22	06/23	06/24	06/25	06/26	06/27	06/28	06/29	06/30
00:15	11400	11640	11640	12120	13440	15000	14040	13200	12120	13320	13440	14280	11880	12000	12840
00:30	11520	11520	11760	11880	13440	14760	13800	12840	12000	13200	13320	13920	11760	11880	12480
00:45	11160	11280	11520	11760	12960	14520	13320	12840	12000	13080	13320	13800	11640	11760	12480
01:00	11400	11280	11280	11640	12960	14520	13560	12720	11880	12960	13200	13800	11520	11640	12240
01:15	10920	11160	11400	11520	12960	14280	13320	12600	11760	13080	13320	13680	11400	11760	12240
01:30	11040	10920	11160	11520	12840	14280	13200	12600	11880	12960	13080	13560	11400	11520	12240
01:45	10920	11040	11040	11640	12600	14280	13080	12480	11640	12720	12960	13440	11400	11760	12000
02:00	11040	10920	10920	11400	12480	14040	12960	12600	11760	12720	12840	13320	11400	11520	12000
02:15	10680	10680	10680	11160	12480	13920	12960	12360	11640	12600	12720	13440	11280	11520	12000
02:30	10800	10800	10680	11280	12360	14160	12840	12360	11640	12600	12720	13440	11280	11520	11880
02:45	10800	10560	10800	11280	12480	13920	12960	12240	11640	12480	12600	13200	11160	11280	11760
03:00	10680	10680	10560	10920	12240	13920	12960	12240	11640	12480	12600	13320	11400	11160	11760
03:15	10680	10440	10680	11160	12240	13800	12720	12240	11760	12480	12720	13200	11040	11160	11880
03:30	10680	10440	10680	10920	12240	13680	12840	12240	11640	12360	12720	13200	11400	11160	11880
03:45	10680	10560	10440	10920	12240	13800	12840	12120	11640	12360	12480	13080	11160	11160	11880
04:00	10560	10320	10560	10800	12240	13920	12840	12120	11640	12360	12720	12960	11160	11280	11880
04:15	10800	10440	10680	11040	12240	14040	12600	12240	11640	12120	12600	13320	11400	11280	11760
04:30	11040	10440	10440	11160	12240	13680	12720	12360	11520	12360	12720	13200	11400	11520	12000
04:45	10920	10440	10680	11400	12360	14160	13080	12360	11640	12360	12960	13440	11400	11640	12120
05:00	11040	10440	10440	11400	12720	14400	12960	12360	11520	12240	13200	13560	11760	11640	12240
05:15	11400	10560	10560	11520	12960	14400	13440	12600	11760	12360	13320	13440	11760	12000	12240
05:30	11520	10320	10320	11520	12960	14760	13440	12840	11760	12120	13560	13920	12120	12120	12720
05:45	11520	10320	10200	11520	12960	14640	13560	12840	11880	12120	13440	13920	12120	12000	12600
06:00	11520	10080	10080	11760	13080	15000	13800	12960	11640	12120	13920	13920	12480	12000	12600
06:15	12000	10560	10200	12600	13560	15480	13800	13680	11880	12120	14160	14520	12840	12360	12960
06:30	12240	10680	10440	12720	14280	15960	14400	14040	12120	12000	14760	14640	13080	12840	13320
06:45	12840	10680	10680	13560	15120	16800	15000	14400	12120	12000	15360	15480	13680	13440	14040
07:00	13440	11040	10440	14400	15960	17520	15720	14880	12120	12000	16200	16440	14520	14040	14640
07:15	14520	11160	10560	15480	17160	18600	16560	15600	12360	12360	17280	17280	15120	14760	15480
07:30	15240	11160	10800	16080	17880	19320	17400	16200	12360	12360	18120	18240	15720	15480	16200
07:45	15960	11520	11160	17400	18600	20400	18360	16560	12480	12480	18840	19080	16680	16440	16680
08:00	16560	11760	11520	17880	19440	21120	18960	17400	12480	12720	19800	19560	17400	17040	17400
08:15	17280	11760	11760	18600	20040	21600	19560	17880	12720	12960	20400	20160	17880	17520	17760
08:30	17640	12240	12240	18840	20400	21840	19800	18000	12840	13440	20520	20400	18000	17520	18120
08:45	18000	12360	12480	19200	20760	21960	20160	18120	12960	13320	19560	20520	18120	17880	18360
09:00	18240	12720	12480	19800	21120	22200	20040	18600	13200	13560	19440	20880	18120	18000	18600
09:15	18600	12960	12720	20160	21240	22200	20520	18480	13080	13680	20160	20880	18360	18480	18840
09:30	18720	12840	12720	20400	21600	22200	20760	18720	13680	13680	20880	21000	18360	18720	18960
09:45	19200	12960	13200	20640	21480	22320	21000	18840	13560	13800	21240	21000	18720	18840	19200
10:00	19080	13320	13080	21000	22200	22680	21360	19080	13680	14040	21360	21360	18720	19320	19200
10:15	19320	13200	13320	21120	22680	23160	21480	18840	13800	14040	21600	21360	18960	19440	19320
10:30	19320	13560	13560	21360	22800	23160	21480	19320	14040	14160	21960	21600	19080	19200	19440
10:45	19680	13560	13800	21720	22800	23280	22080	19320	14040	14400	22080	21720	19200	19800	19560
11:00	19800	13800	13920	22080	22800	23280	21960	19320	14280	14400	22320	21720	19200	19680	
11:15	19800	13920	13920	22320	22920	23280	22440	19080	14400	14640	22560	21480	19080	19560	
11:30	19680	14040	14160	22200	22920	23640	22440	18840	14520	14880	22200	21240	18720	19440	
11:45	19320	14280	14160	22440	22560	23400	22320	18720	14520	15120	22320	21240	18720	19440	
12:00	19800	14280	14520	22320	22800	23640	22560	18720	14760	15240	22560	21240	18720	19560	
AGE TOT	170250	139410	139260	181890	196710	212730	196500	180750	149910	156240	197040	199350	173430	174270	154950

TGL310 *** THE LODESTAR BILLING INTERFACE (REL. 1.01) ***

JULY 1995 — DEMAND BILLING - ELECTRIC — DATE: 07/03
BILLING-ID: 1100 — DEMANDS AS TRANSLATED AND TOTALED — PAGE: 4
TRANS PERIOD FROM: 06/01 TO: 06/30
BILLING GROUP: W NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6940 CITY: ABERDEEN STATE: MD ZIP: 21005
TARIFF SCHEDULE: P

1/4 HOUR ENDING	06/16	06/17	06/18	06/19	06/20	06/21	06/22	06/23	06/24	06/25	06/26	06/27	06/28	06/29	06/30
12:15	19680	14280	14760	22440	22800	24000	22560	18840	14520	15480	22800	21120	18600	19800	
12:30	19800	14280	14760	22320	22920	23880	22800	18480	14640	15720	22560	21000	18840	19560	
12:45	19680	14280	14880	22800	23040	24240	22800	18600	14760	15600	22800	20880	18840	19800	
13:00	19800	14520	14880	23040	23040	24240	22800	18480	14880	15600	23040	21000	18960	20160	
13:15	19920	14400	14760	23160	23040	24480	23040	18600	14760	15480	23520	21000	19080	20400	
13:30	20040	14520	14880	23160	23280	24720	23160	18840	14880	15480	23520	21360	19200	20640	
13:45	20040	14760	15120	23280	23280	24840	23160	18600	14880	15600	23640	21240	19440	20640	
14:00	19800	14400	14880	23280	23400	24600	23280	18840	15120	15840	23280	21120	19680	20640	
14:15	19920	14400	14880	23400	23160	24720	23160	18720	14760	15720	23400	20880	19440	20520	
14:30	19800	14280	15000	23520	23280	24840	22920	18480	15120	15960	23160	20880	19800	20400	
14:45	20040	14280	15000	23280	23520	24840	22800	18480	14880	15960	23520	20880	19800	20640	
15:00	19800	14040	14760	23160	23160	24720	22800	18480	14880	15960	23760	20760	20160	20640	
15:15	19320	14400	15000	22800	23280	24600	22680	18120	14760	15960	23640	20640	20160	20520	
15:30	18840	14160	15000	22800	23280	24600	22560	18000	14760	16080	23520	20520	19920	20400	
15:45	18360	14160	15000	22440	23040	24360	22320	17640	14640	16080	23280	20160	19800	20160	
16:00	17760	14160	15000	22320	23040	23880	21720	17160	14760	16200	22800	19680	19440	19680	
16:15	17640	14040	15000	21600	22440	23400	21240	16920	14640	16080	22200	19200	18960	19320	
16:30	17160	14040	15240	20640	21600	22320	20160	16320	14520	16080	21360	18120	17880	18720	
16:45	16560	13920	15120	19680	20760	21240	19080	15720	14640	15840	20520	17280	16920	17640	
17:00	16320	13920	15240	18960	20400	20760	18240	15480	14880	15960	19440	16560	16440	17280	
17:15	15840	14160	15120	18480	19800	20040	16920	15000	15000	15840	19200	15960	15840	16800	
17:30	15720	14040	14880	18240	19320	19800	16680	14880	15000	15720	18720	15840	15720	16320	
17:45	15480	14280	14760	17640	19080	19560	16080	14640	15120	15720	18360	15600	15480	16320	
18:00	15360	13920	14760	17400	18960	19440	15240	14520	14880	15600	17880	15360	15360	16200	
18:15	15120	13920	14520	17160	18600	18840	14880	14280	14880	15480	17520	15120	15120	15840	
18:30	14760	13680	14400	16800	18240	18600	14760	13920	14880	15240	17160	15120	15120	15600	
18:45	14760	13680	14400	16560	18120	18120	14520	13920	15000	15360	16920	15000	14640	15480	
19:00	14400	13680	13920	16320	18120	18120	14400	13560	14880	15120	16920	14880	14760	15360	
19:15	14160	13560	14040	15960	17880	17520	14280	13680	14640	15120	16680	14880	14400	15480	
19:30	14160	13440	14040	15840	17760	17520	14040	13320	14520	15120	16680	14400	14520	15120	
19:45	13920	13320	13920	15840	17760	17520	13800	13320	14520	14880	16320	14400	14400	15120	
20:00	13560	13320	13560	15720	17400	17160	13800	13200	14280	15000	16200	14280	14400	14640	
20:15	13440	13440	13680	15480	17160	16920	13800	13320	14160	14760	16200	14280	13920	14880	
20:30	13440	13320	13560	15240	17400	16920	14640	13200	14400	14760	16200	14040	13920	14640	
20:45	13440	13320	13680	15720	17040	16920	15000	13320	14160	14880	16200	14040	13800	14400	
21:00	13560	13440	14040	15360	17640	16920	15000	13320	14640	15120	16200	13800	14040	14640	
21:15	13680	13560	14160	15600	17280	16440	15240	13200	14520	15120	16200	13920	14280	15000	
21:30	13680	13560	14040	15480	17400	16440	15120	13200	14640	15120	16320	13560	14040	14640	
21:45	13560	13440	14040	15480	17040	15960	15000	13080	14760	15000	15960	13560	14160	14520	
22:00	13320	13200	14040	15360	16800	15840	14760	13200	14520	15000	15840	13440	13920	14280	
22:15	13080	13320	13680	15000	16800	15360	14640	12960	14520	14760	15720	13080	13800	14280	
22:30	12960	12840	13560	15000	16320	15240	14280	12960	14280	14640	15600	12960	13440	14160	
22:45	12840	12840	13440	14760	16200	15120	14160	12720	14400	14400	15360	12720	13320	13800	
23:00	12720	12600	12960	14640	16080	14760	14040	12720	14040	14280	15000	12480	12960	13800	
23:15	12480	12480	12720	14160	15720	14760	14040	12480	14040	14040	14880	12360	12600	13440	
23:30	12240	12360	12600	14160	15480	14400	13920	12600	13920	13920	14760	12360	12360	13200	
23:45	12120	12240	12480	13920	15360	14160	13560	12360	13800	13800	14520	12120	12240	12960	
24:00	11760	12000	12240	13560	15000	13920	13440	12240	13680	13560	14280	12000	12000	12840	
PAGE TOT	191460	164550	171600	222240	235380	237900	213330	183480	175440	183510	228390	198960	193980	202830	0
DAY TOT	361710	303960	310860	404130	432090	450630	409830	364230	325350	339750	425430	398310	367410	377100	154950

TGL310 *** THE LODESTAR BILLING INTERFACE (REL. 1.01) ***

JULY 1995 DEMAND BILLING - ELECTRIC DATE: 07/03/
BILLING-ID: 1100 TOD DEMAND SUMMARY PAGE: 1
TRANS PERIOD FROM: 06/01 TO: 06/30

BILLING GROUP: W NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6940
TARIFF SCHEDULE: P CITY: ABERDEEN STATE: MD ZIP: 21005
TAX CLASS: 7 CITY/COUNTY CODE: 6

SUMMER KW					NON - SUMMER KW	
ON PEAK KW	DATE	TIME	90%KVA	DATE	TIME	
24840	JUN 21	14:45				
24780	JUN 21	13:45				
24780	JUN 21	14:30				
3974633 KWH						
INT PEAK KW	DATE	TIME	90%KVA	DATE	TIME	
22920	JUN 21	10:15				
22800	JUN 08	10:15				
22740	JUN 08	10:00				
2085533 KWH						
OFF PEAK KW	DATE	TIME	90%KVA	DATE	TIME	
18060	JUN 21	07:15				
17160	JUN 21	07:00				
17100	JUN 08	07:15				
4642834 KWH						
10703000 TOTAL SUMMER KWH						

PROD & TRANS BILLING DEMAND IS 24840 KW JUN 21 14:45

DISTRIBUTION BILLING DEMAND IS 24840 KW JUN 21 14:45

THIS CUSTOMER HAS ELECTRIC RIDERS:

TRANSLATION HISTORY OF LAST 12 OCCURENCES

		SUMMER DATA						NON-SUMMER DATA						
BILL DATE	BILL ADJ	PROD DEM	DIST DEM	TOTAL KWH	ON PEAK KWH	INT PEAK KWH	OFF PEAK KWH	BILL DATE	BILL ADJ	PROD DEM	DIST DEM	TOTAL KWH	ON PEAK KWH	INT PEAK KWH	OFF PEAK KWH
9506	YES	19140	19140	167560	38004	51891	77665	9506	YES	21240	21900	9517440	2551242	2225313	4740885
9505								9505	YES	20940	20940	9767000	2431866	1969209	5365925
9504								9504	YES	23400	23400	10331000	2802634	2288892	5239474
9503								9503	YES	26400	26020	12274000	3233728	2511655	6528617
9502								9502	YES	23400	23400	10492000	2847093	2243296	5401611
9501								9501	YES	21120	20760	10801000	2631487	2012328	6157185
9412								9412	YES	19440	19440	9595000	2624416	2091784	4878800
9411								9411	YES	17700	17700	8358000	2346967	1915178	4095855
9410	YES	22560	22560	10255934	3844220	1961618	4450096	9410	YES	17820	17820	716066	68783	30716	616567
9409	YES	25060	25060	11551000	4260778	2232816	5057406	9409							
9408	YES	25720	25720	12841000	4462444	2253523	6125033	9408							
9407	YES	26460	26460	11445000	4343732	2260535	4840733	9407							

ADDITIONAL LISTING 1

40411 98

TGL310 *** THE LODESTAR BILLING INTERFACE (REL. 1.01) ***

SEPTEMBER 1995 DEMAND BILLING - ELECTRIC DATE: 09/01/
BILLING-ID: 1100 ELECTRIC - METER TRANSLATION SUMMARY REPORT PAGE: 1
TRANS PERIOD FROM: 08/02 TO: 08/31

BILLING GROUP: W NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6940
TARIFF SCHEDULE: P CITY: ABERDEEN STATE: MD ZIP: 21005
TAX CLASS: 7 CITY/COUNTY CODE: 6

LODESTAR CUSTID	CH	MT SI	START TIME	STOP TIME	METER NUMBER	START INDEX	STOP INDEX	METER MULTIPLIER	METERED USE
1100011	1	1	08/02/95-01:01	08/31/95-01:29	50946244	97921.0	3531.0	1000.000000	5610000.0
1100012	2	1	08/02/95-01:01	08/31/95-01:29	50961016	83604.0	90409.0	1000.000000	6805000.0

TGL310 *** THE LODESTAR BILLING INTERFACE (REL. 1.01) ***

SEPTEMBER 1995
BILLING-ID: 1100
TRANS PERIOD FROM: 08/02 TO: 08/31

DEMAND BILLING - ELECTRIC
TRANSLATION CONTROL SUMMARY

DATE: 09/01/
PAGE: 1

BILLING GROUP: W NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6940
TARIFF SCHEDULE: P CITY: ABERDEEN STATE: MD ZIP: 21005
TAX CLASS: 7 CITY/COUNTY CODE: 6

RECORDER ID: 110001

CHAN	PULSE CONST	MT ST	METERED USE	TRANSLATED USE	PERCENTAGE DIFF
1	30.000000	1	5610000	5610120	0.00214
2	30.000000	1	6805000	6805110	0.00162

START TIME - 08/02/95-01:01
END TIME - 08/31/95-01:30
RECORDER STOP TIME - 01:29
START - DAY OF WEEK - 4

EXPECTED NO INTERVALS: 2786
INSERTED NO INTERVALS: 0
RECORDED NO INTERVALS: 2786
MISSING NO INTERVALS : 0

DATE	PULSES CHAN 1 PULSES	CHAN 2 PULSES	CHAN 3 PULSES	CHAN 4 PULSES	TOTAL PULSES	CONSUMPTION CHAN 1 KWH	CHAN 2 KWH	CHAN 3 KWH	CHAN 4 KWH	TOTAL KWH
08/02/95	7282	8984			16266	218460.0	269520.0			487980.0
08/03/95	7467	9169			16636	224010.0	275070.0			499080.0
08/04/95	7400	8592			15992	222000.0	257760.0			479760.0
08/05/95	6457	6949			13406	193710.0	208470.0			402180.0
08/06/95	5749	6233			11982	172470.0	186990.0			359460.0
08/07/95	5906	7271			13177	177180.0	218130.0			395310.0
08/08/95	5867	7418			13285	176010.0	222540.0			398550.0
08/09/95	6072	7777			13849	182160.0	233310.0			415470.0
08/10/95	6487	7907			14394	194610.0	237210.0			431820.0
08/11/95	6641	8110			14751	199230.0	243300.0			442530.0
08/12/95	6134	7058			13192	184020.0	211740.0			395760.0
08/13/95	6216	6977			13193	186480.0	209310.0			395790.0
08/14/95	7074	8804			15878	212220.0	264120.0			476340.0
08/15/95	7066	8746			15812	211980.0	262380.0			474360.0
08/16/95	7175	8952			16127	215250.0	268560.0			483810.0
08/17/95	7454	9307			16761	223620.0	279210.0			502830.0
08/18/95	7079	8527			15606	212370.0	255810.0			468180.0
08/19/95	5881	6707			12588	176430.0	201210.0			377640.0
08/20/95	5417	6304			11721	162510.0	189120.0			351630.0
08/21/95	6479	8118			14597	194370.0	243540.0			437910.0
08/22/95	6687	8256			14943	200610.0	247680.0			448290.0
08/23/95	6182	7795			13977	185460.0	233850.0			419310.0
08/24/95	6553	8440			14993	196590.0	253200.0			449790.0
08/25/95	6023	7540			13563	180690.0	226200.0			406890.0
08/26/95	5201	5897			11098	156030.0	176910.0			332940.0
08/27/95	5598	6271			11869	167940.0	188130.0			356070.0
08/28/95	6334	8121			14455	190020.0	243630.0			433650.0
08/29/95	6299	8002			14301	188970.0	240060.0			429030.0
08/30/95	6514	8216			14730	195420.0	246480.0			441900.0
08/31/95	310	389			699	9300.0	11670.0			20970.0
TOTAL	187004	226837			413841	5610120.0	6805110.0			12415230.0

SEPTEMBER 1995
BILLING-ID: 1100
TRANS PERIOD FROM: 08/02 TO: 08/31

DEMAND BILLING - ELECTRIC
TRANSLATION CONTROL - TOD USAGE SUMMARY

BILLING GROUP: W NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6940
TARIFF SCHEDULE: P CITY: ABERDEEN STATE: MD ZIP: 21005
TAX CLASS: 7 CITY/COUNTY CODE: 6

RECORDER ID: 110001
ADJUSTMENT OF TRANSLATION TO METER READINGS

CHAN	TRANS TOTAL		TRANSLATED USAGE BY PEAKS ON	INT	OFF	TRANSLATED PERCENTAGES ON	INT	OFF	METER TOTAL		METERED USAGE BY PEAKS ON	INT	OFF
1	5610120	SUM	2051190	1055220	2503710	36.5623	18.8092	44.6285	5610000	SUM	2051145	1055196	2503659
		NON								NON			
2	6805110	SUM	2553120	1311630	2940360	37.5176	19.2741	43.2083	6805000	SUM	2553073	1311603	2940324
		NON								NON			

MAX 60 MIN DEMAND SUMMARY

CHAN	DATE	TIME	DEMAND
1	08/02/95	13:00	11670
2	08/02/95	15:00	15210

TGL310 *** THE LODESTAR BILLING INTERFACE (REL. 1.01) ***

SEPTEMBER 1995 — DEMAND BILLING - ELECTRIC — DATE: 09/01/
BILLING-ID: 1100 — DEMANDS AS TRANSLATED AND TOTALED — PAGE: 1
TRANS PERIOD FROM: 08/02 TO: 08/31
BILLING GROUP: W NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6940
TARIFF SCHEDULE: P CITY: ABERDEEN STATE: MD ZIP: 21005

1/4 HOUR ENDING	08/02	08/03	08/04	08/05	08/06	08/07	08/08	08/09	08/10	08/11	08/12	08/13	08/14	08/15	08/1(
00:15		17040	16680	16440	15360	13440	12960	13560	14400	15240	15120	15960	14880	16560	1584(
00:30		16800	16320	16080	15360	13200	12600	13320	14400	14880	15000	15840	14760	16200	1548(
00:45		16680	16440	16200	15120	13320	12600	13200	14160	15000	14760	15600	14520	16320	1524(
01:00		16680	16200	16080	15240	12840	12600	13320	14160	14880	14640	15600	14520	16080	1524(
01:15	16680	16440	16320	15840	14880	13200	12480	13200	13800	14760	14280	15480	14280	16080	1512(
01:30	16440	16320	15960	15840	15000	13080	12480	13080	13920	14520	14400	15240	14280	15600	1488(
01:45	16320	16320	15960	15720	14760	12960	12360	12960	13920	14400	14400	15360	14280	15960	1476(
02:00	16320	16200	15960	15720	14640	12960	12240	12960	13680	14520	14040	15000	14160	15720	1464(
02:15	16320	16080	15720	15480	14640	12840	12240	12960	13560	14160	14040	15000	14040	15360	1476(
02:30	16080	16080	15960	15480	14520	12840	12120	12720	13440	14280	13920	14880	13920	15480	1464(
02:45	16200	15960	15840	15360	14520	12720	12240	12840	13560	14040	13920	14880	13800	15480	1452(
03:00	15960	15960	15600	15360	14640	12720	12000	12840	13320	14040	13560	14880	13800	15360	1452(
03:15	16080	15960	15600	15360	14400	12600	11880	12600	13560	13920	13800	14880	13800	15360	1440(
03:30	15960	15840	15600	15120	14280	12600	12000	12720	13320	13920	13560	14760	13800	15360	1452(
03:45	15840	15840	15480	15240	14400	12480	12000	12720	13560	13920	13680	14640	13800	15360	1428(
04:00	16080	15960	15720	15000	14280	12600	12120	12840	13560	13920	13440	14640	13560	15480	1428(
04:15	15840	15840	15720	15120	14280	12840	12120	12840	13560	14040	13440	14640	13920	15360	1452(
04:30	15960	15840	15840	15120	14280	12720	12120	12840	13440	14160	13440	14520	14040	15600	1440(
04:45	15840	15960	16080	14880	14280	13080	12360	12960	13680	14040	13320	14400	14280	15240	1440(
05:00	16080	16320	15840	14880	14160	12960	12120	13080	13800	14280	13440	14520	14280	15600	1464(
05:15	16080	16200	16320	15000	14400	13200	12480	13320	14040	14520	13200	14520	14400	15720	1500(
05:30	16320	16440	16200	14880	14280	13080	12480	13440	14160	14880	13320	14400	14400	16080	1476(
05:45	16440	16440	16320	15000	14280	13440	12720	13440	14400	15000	13320	14400	14640	16080	1512(
06:00	16560	16560	16560	14880	14280	13800	12840	13920	14760	15120	13440	14280	15120	16320	1560(
06:15	16920	17040	16560	15120	14280	14040	13080	13920	14880	15240	13680	14520	15480	16680	1596(
06:30	17280	17400	17160	15120	14160	14160	13320	14280	14880	15360	13680	14280	15840	16200	1608(
06:45	17880	18120	17280	15000	14040	15000	14160	15120	15480	15720	13560	14280	16440	16920	1656(
07:00	18600	18720	18120	14760	14160	15720	15000	15480	15720	16320	13800	14160	17160	17520	1740(
07:15	19680	19920	18960	14880	14040	16320	15720	16320	16560	17280	13800	14400	18120	18360	1848(
07:30	20520	20520	19800	15000	13920	16920	16320	16800	17160	18120	14040	14520	19200	18960	1920(
07:45	21720	21480	20400	15240	14040	17760	16800	17640	17760	18720	14160	14880	20280	19800	1992(
08:00	22560	22320	21120	15600	14040	18360	17400	18240	18360	19440	14520	14880	21000	21600	2076(
08:15	22920	22680	21600	15960	14160	18600	18000	18960	18960	19920	15000	15360	21480	21960	2124(
08:30	23280	23280	21840	16440	14040	18960	18480	19080	19200	20160	15120	15600	21720	22080	2208(
08:45	23760	23520	22200	16320	14400	19200	18600	19440	19560	20640	15360	15720	22080	22080	2196(
09:00	24000	23880	22560	16920	14520	19560	18960	19680	19920	20880	15600	16200	22320	22560	2244(
09:15	24360	24120	22920	16680	14760	19680	18960	19920	20040	21120	16080	16320	22560	22560	2280(
09:30	24480	24360	22920	17160	14760	19920	19320	20280	20400	21480	16320	16440	22920	22920	2316(
09:45	24840	24720	23160	17400	14880	19680	19320	20400	20520	21720	16560	16680	23040	22800	2316(
10:00	25200	24960	23400	17280	15000	20040	19560	20640	20760	21600	17040	16560	23280	23280	2364(
10:15	25560	25080	23400	17760	15240	20160	19920	20640	20880	21960	17040	16800	23520	23400	2388(
10:30	25560	25200	23640	17760	15120	20040	20160	21000	21000	21960	17280	17160	23880	23760	2448(
10:45	25800	25560	24000	18240	15120	20280	20160	21240	21120	22320	17400	17160	23760	23880	2436(
11:00	26040	25080	24000	18240	15240	20160	20280	21240	21480	22440	17520	17400	24240	24120	2472(
11:15	26280	25440	24120	18360	15240	20280	20280	21120	21840	22680	17760	17280	24240	24000	2472(
11:30	26160	25200	24120	18240	15360	20280	20280	21240	21600	22680	18120	17520	24600	23760	2496(
11:45	26160	25440	24000	18600	15120	20640	20280	21360	21960	23040	18000	17760	24600	23760	2508(
12:00	26160	25440	24360	18600	15360	20280	20400	21480	21960	23040	18120	17640	24840	24000	2496(
PAGE TOT	219780	234810	226470	192690	175320	189390	182730	192300	198540	207570	178260	185460	214470	223680	219390

TGL310 *** THE LODESTAR BILLING INTERFACE (REL. 1.01) ***

SEPTEMBER 1995
BILLING-ID: 1100
TRANS PERIOD FROM: 08/02 TO: 08/31
BILLING GROUP: W
ROUTE: 9726 FOLIO: 6940
TARIFF SCHEDULE: P

DEMAND BILLING - ELECTRIC
DEMANDS AS TRANSLATED AND TOTALED

DATE: 09/01/
PAGE: 2

NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA

CITY: ABERDEEN STATE: MD ZIP: 21005

1/4 HOUR ENDING	08/02	08/03	08/04	08/05	08/06	08/07	08/08	08/09	08/10	08/11	08/12	08/13	08/14	08/15	08/16
12:15	26160	25440	24480	18840	15480	20160	20520	21360	21600	23040	18000	17760	24720	24000	2532(
12:30	26280	25560	24360	19080	15480	20160	20760	21600	22080	23400	18360	17760	25200	24000	2544(
12:45	26400	25560	24480	19080	15600	20520	20640	21600	22080	23400	18360	18000	25200	24120	2556(
13:00	26640	25920	24720	19080	15480	20640	20760	21960	21960	23640	18480	18000	25200	24360	2580(
13:15	26760	25680	24600	19320	15600	20760	20880	21840	22080	23760	18720	17880	25320	24600	2616(
13:30	26880	26040	24600	19200	15600	21000	21600	21840	21960	23760	18960	17880	25560	24720	2628(
13:45	26760	26400	24480	19440	15600	21000	21720	21960	22200	23880	18840	17880	25680	25200	2640(
14:00	26880	26280	24360	19440	15600	20760	21480	22080	22320	23760	18840	18000	26040	25080	2640(
14:15	26880	26160	24600	19440	15720	21120	21840	22080	22200	24000	19080	18120	26160	24720	2652(
14:30	26880	26520	24480	19440	15840	21240	21960	22320	22200	23640	19200	18120	2616J	24960	2652(
14:45	26760	26400	24600	19440	15960	21000	21840	22440	22440	23640	18840	18120	26280	25080	2664(
15:00	26880	26400	24600	19440	15960	20880	22080	22560	22440	23640	18960	18120	26160	25080	2628(
15:15	26760	26400	24240	19080	16200	21000	21960	22440	22320	23400	19080	18000	26280	25080	2628(
15:30	26640	26160	24240	18960	16320	21000	22200	22200	22320	22800	18960	18240	26160	25200	2628(
15:45	26400	26160	23880	18840	16440	20520	21720	21840	22200	22440	18840	18360	26040	24480	2604(
16:00	25920	25680	23640	18480	16320	20400	21480	21600	21840	22320	18840	18240	25680	24240	2556(
16:15	25440	24960	23040	18480	16560	19680	21000	21360	21600	21480	18960	18480	25200	23880	2496(
16:30	24480	24120	22440	18240	16440	19200	20040	20400	21360	21000	18600	18240	24360	22920	2424(
16:45	23520	23280	21960	17400	16200	18000	18960	19680	20640	20520	18720	18120	23520	22200	2352(
17:00	22920	22800	21480	17280	15960	17520	18480	19200	20160	19920	18360	18240	22680	21720	2256(
17:15	22440	22200	21240	17160	15960	17160	18120	18360	20040	19680	18480	18360	22080	21000	2160(
17:30	22080	22080	20880	17160	15960	16800	17640	18000	19800	19440	18840	18240	21960	20880	2148(
17:45	21600	21600	20640	17160	15720	16320	17520	18000	19440	19200	18840	18360	21600	20760	2124(
18:00	21480	21360	20280	16920	15600	16320	17400	17640	19320	18720	18720	18240	21360	20400	2112(
18:15	21240	20880	20280	16680	15600	15840	17160	17520	19080	18600	18480	18120	21120	20160	2076(
18:30	21000	20760	20040	16800	15240	15840	16680	17280	19200	18600	18600	18120	21000	20160	2064(
18:45	20880	20640	20040	16560	15240	15600	16680	17160	18840	18360	18240	18240	20520	19560	2064(
19:00	20400	20160	19680	16440	15240	15360	16560	17280	18480	18000	18000	17880	20400	19200	2016(
19:15	20280	19920	19560	16320	15120	15360	16320	16800	18360	17760	18120	17520	20040	19080	2004(
19:30	19920	19800	19320	16560	15000	15240	16200	16560	18120	17640	17880	17640	20040	19080	1992(
19:45	19800	19560	19320	16200	15000	14880	16080	16560	17640	17040	17640	17520	19680	18840	1980(
20:00	19440	19320	19080	16200	15000	14760	15960	16320	17640	16920	17640	17160	19560	18480	1956(
20:15	19560	19440	19200	16320	15000	14880	16080	16560	17400	16920	17640	17160	19560	18600	1956(
20:30	19800	19440	19200	16320	15120	15000	16080	16680	17520	17040	17880	17520	19560	18840	1980(
20:45	19680	19440	19200	16800	15240	15120	16080	16560	17760	17160	18000	17400	19320	18720	1968(
21:00	19800	19680	19200	16560	15240	15120	15840	16440	17640	16920	17880	17280	19200	18360	1956(
21:15	19680	19560	19320	16680	15000	14760	15720	16560	17640	16920	17880	17400	18960	18240	1944(
21:30	19440	19320	18960	16560	15120	14760	15600	16560	17400	16920	17520	17160	18720	18240	1932(
21:45	19320	18960	18960	16320	14880	14640	15240	16320	17160	16800	17640	17040	18480	17760	1908(
22:00	19200	18840	18720	16440	14760	14400	15120	15960	16920	16560	17400	16800	18360	17640	1896(
22:15	18600	18600	18480	16200	14760	14280	14880	15720	16920	16560	17400	16560	17880	17520	1860(
22:30	18720	18480	18480	16200	14520	14040	14640	15600	16680	16440	17160	16440	17880	17040	1836(
22:45	18120	18120	18120	16200	14280	13920	14400	15480	16440	16200	16920	16200	17400	16800	1800(
23:00	18120	17760	18000	15960	14280	13800	14280	15240	16320	16080	16680	15960	17520	16800	1800(
23:15	17880	17760	17400	16080	14160	13560	14040	15120	16200	15960	16560	15600	17280	16560	1752(
23:30	17640	17520	17160	15960	13920	13320	13920	14640	15960	15480	16440	15600	16920	16440	1764(
23:45	17280	17160	16800	15720	13800	13080	13560	14640	15720	15360	16440	15120	16800	15960	1728(
24:00	17160	16800	16320	15480	13440	12960	13560	14760	15480	15120	16080	15120	16680	15960	1716(
PAGE TOT	268200	264270	253290	209490	184140	205920	215820	223170	233280	234960	217500	210330	261870	250680	2644
DAY TOT	487980	499080	479760	402180	359460	395310	398550	415470	431820	442530	395760	395790	476340	474360	4838

TGL310 *** THE LODESTAR BILLING INTERFACE (REL. 1.01) ***

SEPTEMBER 1995 DEMAND BILLING - ELECTRIC DATE: 09/01/
BILLING-ID: 1100 DEMANDS AS TRANSLATED AND TOTALED PAGE: 3
TRANS PERIOD FROM: 08/02 TO: 08/31
BILLING GROUP: W NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6940
TARIFF SCHEDULE: P CITY: ABERDEEN STATE: MD ZIP: 21005

1/4 HOUR ENDING	08/17	08/18	08/19	08/20	08/21	08/22	08/23	08/24	08/25	08/26	08/27	08/28	08/29	08/30	08/31
00:15	17040	16680	16080	14040	13200	16080	14280	13680	15600	12840	13200	14040	13440	14280	1440(
00:30	16920	16440	15840	13560	13200	15840	14040	13560	15240	12720	13200	14280	13560	14400	1416(
00:45	16800	16560	15600	13800	12960	15840	14040	13560	15360	12600	13080	14280	13320	14280	1392(
01:00	16560	16320	15600	13560	13080	15480	13800	13320	14880	12600	13080	13920	13200	14040	1392(
01:15	16440	16200	15480	13440	12840	15600	13800	13320	14880	12600	12960	14040	13200	14160	1380(
01:30	16200	16200	15240	13320	12840	15480	13680	13200	14760	12480	12720	13680	13200	13800	1368(
01:45	16440	16080	15240	13320	12720	15120	13560	13080	14400	12480	12600	13800	12960	13800	
02:00	16080	15840	15120	13200	12720	15120	13560	12960	14280	12240	12480	13680	13200	13800	
02:15	16320	15960	15000	12960	12720	15000	13200	12840	14040	12360	12600	13680	12720	13680	
02:30	16080	15480	14880	13200	12360	14760	13440	12960	14040	12240	12480	13800	12960	13920	
02:45	15840	15600	14880	12960	12360	14760	13200	12720	13680	12240	12360	13800	12720	13680	
03:00	15840	15480	14760	12720	12600	14760	13080	12720	13800	12240	12480	13560	12720	13800	
03:15	15840	15360	14640	12840	12480	14520	13200	12840	13440	12240	12360	13800	12840	13800	
03:30	15960	15240	14640	12600	12360	14400	13080	12720	13560	12120	12360	13680	12600	13560	
03:45	15840	15360	14520	12840	12360	14400	13080	12720	13440	12120	12360	13560	12720	13680	
04:00	15720	15360	14520	12480	12360	14280	12960	12840	13320	12120	12360	13680	12600	13560	
04:15	15960	15480	14520	12600	12480	14520	13200	12720	13560	12000	12360	13800	12840	13680	
04:30	15960	15360	14400	12360	12840	14520	13200	12840	13440	12120	12480	13920	12840	13800	
04:45	15960	15360	14520	12600	12480	14640	13320	12840	13440	12000	12360	13920	12840	14040	
05:00	16080	15480	14280	12360	12720	14520	13320	13080	13440	12120	12480	14280	13080	13800	
05:15	16320	15600	14400	12600	12720	14640	13560	13200	13680	12120	12480	14520	13320	14160	
05:30	16440	15720	14280	12480	12960	14520	13440	13320	13920	12000	12360	14280	13440	14160	
05:45	16560	15600	14160	12600	12960	14880	13440	13560	14160	12000	12600	14520	13560	14400	
06:00	16800	15960	14280	12600	13440	14880	13560	13800	14280	12240	12480	14760	14040	14640	
06:15	17520	16440	14280	12480	13920	15240	13920	14280	14520	12360	12600	15360	14280	15360	
06:30	17760	16680	14160	12480	14160	15480	14040	14520	14760	12360	12720	15840	14640	15480	
06:45	18720	16800	14160	12360	14520	15960	14760	14880	15240	12360	12480	16440	15000	15960	
07:00	19080	17400	14160	12240	15360	16800	15240	15600	15600	12360	12480	17040	15840	16560	
07:15	20160	18000	14160	12600	15960	17280	15960	16440	16440	12240	12840	17880	16560	17160	
07:30	20760	18600	14280	12720	16440	18240	16680	17160	16920	12480	12600	18720	17280	17880	
07:45	21840	19560	14400	12840	17280	18840	17400	18000	18120	12360	12840	19680	18000	18840	
08:00	22680	20160	14760	12960	18000	19440	18120	18720	18480	12240	13080	20160	18720	19560	
08:15	23040	20520	14640	13320	18600	20280	18840	19200	18840	12120	12960	20400	19080	20040	
08:30	23640	20760	14880	13560	19080	20640	18960	19680	19200	12240	13200	20640	19560	20400	
08:45	23760	21120	15120	13680	19560	20880	19200	20160	19200	12600	13440	20640	19800	20640	
09:00	24240	21480	15360	13800	19560	21480	19320	20520	19920	12600	13440	21000	20280	20880	
09:15	24600	21840	15360	13920	20160	21840	19800	21240	20040	12720	13920	21360	20520	21480	
09:30	24960	22320	15600	14280	20400	21840	20040	21240	20280	12960	13920	21360	20880	21240	
09:45	25200	22440	15600	14280	20880	22080	20400	21600	20280	13320	14280	21960	20640	21720	
10:00	25320	22680	15960	14400	21240	22200	20280	21960	20400	13440	14640	22320	21120	22080	
10:15	25440	23040	16200	14400	21480	22680	20760	22200	20640	13680	14760	22440	21360	22080	
10:30	25560	23160	16200	14760	21600	22800	21000	22680	20880	13680	15240	22440	21600	22560	
10:45	25560	23280	16560	14760	22200	23160	21000	22800	21000	13920	15240	22680	21600	22920	
11:00	26040	23520	16560	15000	22200	23040	21120	22920	20880	14040	15600	22680	21720	22920	
11:15	25920	23280	16680	15360	22320	23040	21360	23160	20760	14040	15840	23040	21840	22920	
11:30	25800	23160	16920	15240	22680	23160	21480	23280	20760	14280	15840	22920	22200	22920	
11:45	25680	23520	17040	15600	22920	23040	21840	23280	20880	14400	16200	22440	22080	23040	
12:00	25800	23760	17040	15720	23040	23040	21840	23400	20880	14640	16560	22680	21960	23160	
PAGE TOT	237270	220560	181740	160950	192330	212760	194100	198330	198390	152070	159750	206850	195120	205680	20970

TGL310 *** THE LODESTAR BILLING INTERFACE (REL. 1.01) ***

SEPTEMBER 1995 — DEMAND BILLING - ELECTRIC — DATE: 09/01/
BILLING-ID: 1100 — DEMANDS AS TRANSLATED AND TOTALED — PAGE: 4
TRANS PERIOD FROM: 08/02 TO: 08/31
BILLING GROUP: W NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6940
TARIFF SCHEDULE: P CITY: ABERDEEN STATE: MD ZIP: 21005

1/4 HOUR ENDING	08/17	08/18	08/19	08/20	08/21	08/22	08/23	08/24	08/25	08/26	08/27	08/28	08/29	08/30	08/31
12:15	25920	23760	16920	15720	23040	23160	22080	23520	20760	14640	16560	23160	22080	23160	
12:30	26160	23880	16200	15840	23280	22920	21720	23640	21120	14640	16800	22680	22320	23400	
12:45	26040	24240	16320	16200	23400	23160	22080	23760	21360	14760	17160	23040	22440	23400	
13:00	26280	23880	16320	16080	23760	23400	22200	24240	21360	15240	16800	23160	22680	23400	
13:15	26520	24360	16440	16440	24000	23520	22320	24480	21600	15600	17040	23400	23400	23880	
13:30	26520	24480	16560	16440	24120	23640	22680	24720	21480	15720	17040	23400	23280	23760	
13:45	26760	24240	16560	16560	24240	23520	22680	24480	21720	15840	17160	23160	23640	23880	
14:00	26520	24360	16440	16560	24360	23520	22560	24360	21360	15840	17280	23160	23640	23880	
14:15	26640	24240	16320	16680	24480	23760	22680	24600	21240	15840	17160	23280	23880	23760	
14:30	26400	24480	17400	16680	24600	24000	22920	24720	21360	15840	17400	23280	23520	23880	
14:45	26280	24240	17280	16800	24600	23880	22800	25200	21000	15840	17040	23520	23520	23880	
15:00	26160	24240	17400	16680	24720	23880	22920	25080	20880	15720	16920	23400	23880	23760	
15:15	26400	24000	17280	16560	23640	23760	22920	24840	21000	15720	16920	23400	23520	23880	
15:30	26160	23760	17640	16560	23760	23520	22440	24720	20520	15720	17040	22800	23520	23520	
15:45	26040	23520	17400	16800	23640	23760	22320	24840	20040	15720	17040	22560	23400	23280	
16:00	25680	23160	17280	16680	24000	23280	22080	24480	19920	15840	16920	22320	23040	23160	
16:15	25320	22680	17400	16680	23520	22680	21840	24000	19320	15600	17160	21720	22800	22800	
16:30	24480	22080	17280	16800	22800	21960	21000	23400	18840	15840	17280	21360	21960	21840	
16:45	23640	21480	17520	16800	21720	21000	20160	22320	18240	15840	17040	20040	21000	20760	
17:00	22680	21240	17280	16680	21120	20400	19560	21840	17760	15720	17040	19560	20280	20160	
17:15	22200	20760	17280	16920	20640	19920	19080	21240	17400	15600	17280	18840	19920	19800	
17:30	22080	20400	17400	16800	20400	19680	18720	21120	17280	15480	16800	18360	19680	19560	
17:45	21840	20280	17040	16680	19920	19680	18360	20760	17040	15600	17160	18240	19680	19320	
18:00	21600	20280	17160	16560	19800	19320	18240	20400	17160	15600	16800	18000	19080	19200	
18:15	21360	19800	17040	16800	19560	19200	18000	20400	16680	15480	16800	17760	19080	19080	
18:30	21000	19680	16920	16440	19200	18840	18120	19920	16680	15360	16560	17760	18480	18840	
18:45	20880	19560	16680	16680	19080	18480	17640	20040	16200	15480	16800	17280	18360	18720	
19:00	20640	19200	16800	16200	18600	18480	17640	19560	16320	15000	16560	17280	18000	18360	
19:15	20280	18840	16320	16080	18480	17880	17160	19320	15720	15000	16200	16920	17640	17880	
19:30	20040	18840	16200	16080	18240	17760	16920	19200	15720	14640	16200	16920	17520	17880	
19:45	19920	18480	15840	15720	18120	17520	16680	19080	15120	14520	16080	16440	17400	17520	
20:00	19920	18720	15840	15480	18240	17400	16440	18840	15000	14520	16320	16680	17280	17640	
20:15	19680	18720	16080	15720	18360	17400	16440	19200	15120	14880	16320	16680	17520	17640	
20:30	19920	18840	16320	15840	18360	17400	16680	19080	15240	14880	16320	16680	17400	17520	
20:45	19680	18720	16200	15720	18240	17040	16560	18960	15000	15000	16200	16560	17280	17400	
21:00	19320	18720	15960	15480	18360	16920	16560	18720	14760	15240	16200	16440	17160	17400	
21:15	19320	18600	15960	15600	18240	16560	16200	18720	14520	15120	15840	15960	16800	17040	
21:30	19080	18360	15840	15480	17880	16560	15960	18480	14640	14880	15840	15840	16800	16920	
21:45	18720	18120	15720	15000	17760	16320	15720	18240	14520	14520	15600	15480	16320	16320	
22:00	18480	17880	15360	15000	17520	16080	15600	17880	14400	14640	15360	15480	16200	16200	
22:15	18240	17640	15120	14760	17520	16080	15240	17520	14040	14280	15120	15000	15720	15960	
22:30	18000	17280	14880	14640	17160	15720	15000	17280	14040	14040	14880	14760	15600	15720	
22:45	17880	17160	14760	14280	17160	15480	15000	17160	13920	14040	14880	14640	15120	15480	
23:00	17520	16920	14640	14040	16800	15120	14520	16800	13560	13800	14760	14520	15120	15360	
23:15	17280	16920	14400	14040	16800	14880	14400	16440	13440	13680	14520	14400	15000	14880	
23:30	17160	16680	14400	13680	16440	14880	14040	16320	13440	13680	14400	14040	14640	14760	
23:45	16920	16440	14160	13440	16320	14520	14160	16200	13080	13560	14280	14040	14640	14640	
24:00	16680	16320	14040	13320	16320	14280	13800	15720	13080	13440	14400	13800	14400	14400	
PAGE TOT	265560	247620	195900	190680	245580	235530	225210	251460	208500	180870	196320	226800	233910	236220	0
DAY TOT	502830	468180	377640	351630	437910	448290	419310	449790	406890	332940	356070	433650	429030	441900	20970

TGL310 *** THE LODESTAR BILLING INTERFACE (REL. 1.01) ***

SEPTEMBER 1995 DEMAND BILLING - ELECTRIC DATE: 09/01/
BILLING-ID: 1100 TOD DEMAND SUMMARY PAGE: 1
TRANS PERIOD FROM: 08/02 TO: 08/31

BILLING GROUP: W NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6940
TARIFF SCHEDULE: P CITY: ABERDEEN STATE: MD ZIP: 21005
TAX CLASS: 7 CITY/COUNTY CODE: 6

---------- SUMMER KW ---------- ---------- NON - SUMMER KW ----------

ON PEAK KW	DATE	TIME	90%KVA	DATE	TIME
26880	AUG 02	14:15			
26880	AUG 02	14:30			
26820	AUG 02	13:30			

4604218 KWH

INT PEAK KW	DATE	TIME	90%KVA	DATE	TIME
25380	AUG 02	10:15			
25380	AUG 17	10:15			
25260	AUG 17	10:00			

2366799 KWH

OFF PEAK KW	DATE	TIME	90%KVA	DATE	TIME
19620	AUG 17	07:15			
19440	AUG 05	14:00			
19440	AUG 05	14:15			

5443983 KWH
12415000 TOTAL SUMMER KWH
PROD & TRANS BILLING DEMAND IS 26880 KW AUG 02 14:15

DISTRIBUTION BILLING DEMAND IS 26880 KW AUG 02 14:15

THIS CUSTOMER HAS ELECTRIC RIDERS:

---------- TRANSLATION HISTORY OF LAST 12 OCCURENCES ----------

	SUMMER DATA							NON-SUMMER DATA							
BILL DATE	BILL ADJ	PROD DEM	DIST DEM	TOTAL KWH	ON PEAK KWH	INT PEAK KWH	OFF PEAK KWH	BILL DATE	BILL ADJ	PROD DEM	DIST DEM	TOTAL KWH	ON PEAK KWH	INT PEAK KWH	OFF PEAK KWH
9508	YES	27180	27180	13680000	4802092	2422091	6455817	9508							
9507	YES	24840	24840	10703000	3974633	2085533	4642834	9507							
9506	YES	19140	19140	167560	38004	51891	77665	9506	YES	21240	21900	9517440	2551242	2225313	4740885
9505								9505	YES	20940	20940	9767000	2431866	1969209	5365925
9504								9504	YES	23400	23400	10331000	2802634	2288892	5239474
9503								9503	YES	26400	26020	12274000	3233728	2511655	6528617
9502								9502	YES	23400	23400	10492000	2847093	2243296	5401611
9501								9501	YES	21120	20760	10801000	2631487	2012328	6157185
9412								9412	YES	19440	19440	9595000	2624416	2091784	4878800
9411								9411	YES	17700	17700	8358000	2346967	1915178	4095855
9410	YES	22560	22560	10255934	3844220	1961618	4450096	9410	YES	17820	17820	716066	68783	30716	616567
9409	YES	25060	25060	11551000	4260778	2232816	5057406	9409							

ADDITIONAL LISTING 1

TGL310 *** THE LODESTAR BILLING INTERFACE (REL. 1.01) ***

OCTOBER 1995
BILLING-ID: 1100
TRANS PERIOD FROM: 08/31 TO: 10/02

DEMAND BILLING - ELECTRIC
ELECTRIC - METER TRANSLATION SUMMARY REPORT

DATE: 10/02/
PAGE: 1

BILLING GROUP: W NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6940
TARIFF SCHEDULE: P CITY: ABERDEEN STATE: MD ZIP: 21005
TAX CLASS: 7 CITY/COUNTY CODE: 6

LODESTAR CUSTID	CH	MT SI	START TIME	STOP TIME	METER NUMBER	START INDEX	STOP INDEX	METER MULTIPLIER	METERED USE
1100011	1	1	08/31/95-01:31	10/02/95-00:59	50946244	3531.0	8743.0	1000.000000	5212000.0
1100012	2	1	08/31/95-01:31	10/02/95-00:59	50961016	90409.0	96427.0	1000.000000	6018000.0

TGL310 *** THE LODESTAR BILLING INTERFACE (REL. 1.01) ***

OCTOBER 1995
BILLING-ID: 1100
TRANS PERIOD FROM: 08/31 TO: 10/02

DEMAND BILLING - ELECTRIC
TRANSLATION CONTROL SUMMARY

DATE: 10/02/
PAGE: 1

BILLING GROUP: W NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6940
TARIFF SCHEDULE: P CITY: ABERDEEN STATE: MD ZIP: 21005
TAX CLASS: 7 CITY/COUNTY CODE: 6

RECORDER ID: 110001

CHAN	PULSE CONST	MT ST	METERED USE	TRANSLATED USE	PERCENTAGE DIFF
1	30.000000	1	5212000	5212260	0.00499
2	30.000000	1	6018000	6018330	0.00548

START TIME - 08/31/95-01:31
END TIME - 10/02/95-01:00
RECORDER STOP TIME - 00:59
START - DAY OF WEEK - 5

EXPECTED NO INTERVALS: 3070
INSERTED NO INTERVALS: 0
RECORDED NO INTERVALS: 3070
MISSING NO INTERVALS : 0

DATE	PULSES CHAN 1 PULSES	CHAN 2 PULSES	CHAN 3 PULSES	CHAN 4 PULSES	TOTAL PULSES	CONSUMPTION CHAN 1 KWH	CHAN 2 KWH	CHAN 3 KWH	CHAN 4 KWH	TOTAL KWH
08/31/95	6327	7863			14190	189810.0	235890.0			425700.0
09/01/95	6457	7060			13517	193710.0	211800.0			405510.0
09/02/95	5168	5640			10808	155040.0	169200.0			324240.0
09/03/95	4925	5392			10317	147750.0	161760.0			309510.0
09/04/95	5165	5580			10745	154950.0	167400.0			322350.0
09/05/95	6302	7766			14068	189060.0	232980.0			422040.0
09/06/95	6457	7950			14407	193710.0	238500.0			432210.0
09/07/95	6473	7990			14463	194190.0	239700.0			433890.0
09/08/95	6316	7747			14063	189480.0	232410.0			421890.0
09/09/95	5805	6375			12180	174150.0	191250.0			365400.0
09/10/95	4915	5536			10451	147450.0	166080.0			313530.0
09/11/95	5264	6281			11545	157920.0	188430.0			346350.0
09/12/95	5433	6459			11892	162990.0	193770.0			356760.0
09/13/95	6164	7593			13757	184920.0	227790.0			412710.0
09/14/95	6550	8149			14699	196500.0	244470.0			440970.0
09/15/95	5618	6718			12336	168540.0	201540.0			370080.0
09/16/95	4771	5273			10044	143130.0	158190.0			301320.0
09/17/95	4793	5116			9909	143790.0	153480.0			297270.0
09/18/95	5439	6508			11947	163170.0	195240.0			358410.0
09/19/95	5345	6480			11825	160350.0	194400.0			354750.0
09/20/95	5619	6840			12459	168570.0	205200.0			373770.0
09/21/95	5982	7272			13254	179460.0	218160.0			397620.0
09/22/95	5797	6847			12644	173910.0	205410.0			379320.0
09/23/95	4491	4701			9192	134730.0	141030.0			275760.0
09/24/95	4484	4621			9105	134520.0	138630.0			273150.0
09/25/95	5053	5857			10910	151590.0	175710.0			327300.0
09/26/95	4890	5763			10653	146700.0	172890.0			319590.0
09/27/95	4964	5754			10718	148920.0	172620.0			321540.0
09/28/95	5076	5805			10881	152280.0	174150.0			326430.0
09/29/95	4810	5097			9907	144300.0	152910.0			297210.0
09/30/95	4400	4258			8658	132000.0	127740.0			259740.0
10/01/95	4334	4154			8488	130020.0	124620.0			254640.0
10/02/95	155	166			321	4650.0	4980.0			9630.0
TOTAL	173742	200611			374353	5212260.0	6018330.0			11230590.0

OCTOBER 1995
BILLING-ID: 1100
TRANS PERIOD FROM: 08/31 TO: 10/02

DEMAND BILLING - ELECTRIC
TRANSLATION CONTROL - TOD USAGE SUMMARY

BILLING GROUP: W NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6940
TARIFF SCHEDULE: P CITY: ABERDEEN STATE: MD ZIP: 21005
TAX CLASS: 7 CITY/COUNTY CODE: 6

RECORDER ID: 110001
ADJUSTMENT OF TRANSLATION TO METER READINGS

CHAN	TRANS TOTAL		TRANSLATED USAGE BY PEAKS ON	INT	OFF	TRANSLATED PERCENTAGES ON	INT	OFF	METER TOTAL		METERED USAGE BY PEAKS ON	INT	OFF
1	5212260	SUM	1748940	926430	2402220	33.5543	17.7740	46.0878	5212000	SUM	1748850	926381	2402096
		NON	0	0	134670	0.0000	0.0000	2.5839		NON	0	0	134673
2	6018330	SUM	2105340	1091610	2691780	34.9821	18.1380	44.7263	6018000	SUM	2105223	1091545	2691629
		NON	0	0	129600	0.0000	0.0000	2.1536		NON	0	0	129603

MAX 60 MIN DEMAND SUMMARY

CHAN	DATE	TIME	DEMAND
1	08/31/95	16:00	10560
2	08/31/95	14:00	13860

TGL310 *** THE LODESTAR BILLING INTERFACE (REL. 1.01) ***

OCTOBER 1995 — DEMAND BILLING - ELECTRIC — DATE: 10/02/
BILLING-ID: 1100 — DEMANDS AS TRANSLATED AND TOTALED — PAGE: 1
TRANS PERIOD FROM: 08/31 TO: 10/02
BILLING GROUP: W NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6940
TARIFF SCHEDULE: P CITY: ABERDEEN STATE: MD ZIP: 21005

1/4 HOUR ENDING	08/31	F 09/01	S 09/02	S 09/03	M 09/04	T 09/05	W 09/06	09/07	09/08	S 09/09	S 09/10	09/11	09/12	09/13	09/1
00:15		15840	13320	12120	12240	12720	14160	14160	13680	14400	13920	11280	11400	11760	1428
00:30		15720	13200	12000	12120	12720	13920	14040	13800	14160	13800	11160	11160	11640	1392
00:45		15360	13320	11880	12000	12600	13800	14040	13560	14040	13440	11040	11160	11880	1404
01:00		15480	13080	11760	11880	12720	13560	14040	13680	13920	13440	10920	11040	11760	1392
01:15		15360	12960	11760	11760	12720	13560	13800	13320	13800	13320	10800	11040	11760	1380
01:30		15480	12840	11400	12000	12600	13440	13560	13440	13680	13080	10920	10920	11760	1368
01:45	13560	15240	12960	11520	11760	12480	13440	13560	13200	13680	13200	10560	10920	11640	1368
02:00	13320	15120	12720	11400	11520	12480	13320	13200	13320	13680	13080	10680	10800	11880	1368
02:15	13320	15000	12600	11400	11520	12360	13200	13440	13080	13560	12840	10560	10800	11760	1332
02:30	13320	15120	12720	11280	11640	12360	13320	13320	13200	13560	12840	10680	10680	11520	1332
02:45	13200	15000	12720	11280	11520	12360	13080	13200	13080	13440	12480	10320	10800	11760	1344
03:00	13320	14880	12480	11160	11520	12360	13200	13200	13200	13560	12480	10560	10440	11760	1332
03:15	13200	14760	12720	11160	11160	12240	12960	13080	13080	13440	12360	10440	10680	11760	1344
03:30	13200	14880	12480	11160	11400	12120	13200	13320	12960	13320	12360	10440	10560	11760	1332
03:45	13200	14520	12600	11040	11280	12240	13080	13200	12960	13320	12120	10320	10560	11760	1344
04:00	13080	14640	12360	11040	11280	12240	12960	13080	12960	13200	12240	10440	10920	11880	1356
04:15	13320	14760	12480	11160	11280	12360	13080	13320	13080	13440	12000	10440	10800	12000	1332
04:30	13320	14520	12360	11040	11280	12360	13080	13440	13320	13200	12120	10800	10920	12240	1344
04:45	13320	14520	12480	11160	11280	12360	13320	13440	13560	13560	11880	10680	10800	12120	1356
05:00	13560	14760	12360	11040	11280	12360	13200	13440	13200	13320	11760	10800	11040	12360	1368
05:15	13800	14640	12360	11160	11160	12720	13440	13560	13680	13440	11640	11040	11160	12480	1392
05:30	13920	14760	12360	11160	11280	12720	13680	13800	13680	13320	11640	11160	11160	12720	1440
05:45	14160	14640	12240	11280	11280	12960	13920	13920	13920	13560	11640	11280	11640	13080	1452
06:00	14400	15000	12360	11280	11040	13440	14280	14160	14040	13440	11520	11760	12000	13560	1476
06:15	15120	15360	12720	11400	11400	14040	14880	15000	14760	13800	11640	12360	12480	14280	1536
06:30	15360	15240	12600	11160	11400	14520	15480	15240	15000	13800	11640	12720	12840	14520	1620
06:45	15840	15480	12240	11040	11040	15000	15720	15600	15360	13800	11520	13320	13320	15000	1668
07:00	16560	15720	12120	11040	10920	15360	16200	16440	16080	14040	11520	13560	14040	15600	1764
07:15	17280	16200	12120	11160	10920	16200	16680	17040	16680	13680	11520	14280	14640	16440	1824
07:30	17880	16800	12360	11280	11040	17040	17280	18120	17400	13920	11640	14760	15240	17040	1872
07:45	18720	17040	12120	11280	11280	17880	17880	18720	18360	13920	11640	15600	16080	18000	1968
08:00	19440	17520	12480	11520	11400	18840	18480	19440	19200	14040	11760	16320	16440	18480	2004
08:15	20040	17880	12360	11640	11760	19080	18960	20040	19560	14160	12240	16560	17040	18960	2052
08:30	20520	18240	12600	11520	11760	19440	19200	20400	19920	14520	12120	16680	16920	18960	2076
08:45	21000	18480	12840	11760	12000	19560	19920	20400	20160	14760	12360	16680	16920	19320	2100
09:00	21240	18840	13080	12000	12240	19800	19920	21000	20400	14640	12600	16680	17160	19560	2136
09:15	21720	18960	13200	12360	12360	20280	20400	21240	20640	15000	12840	17040	17520	19800	2160
09:30	21720	19200	13320	12600	12720	20280	20640	21720	21000	15120	12840	17040	18000	20040	2196
09:45	21960	19560	13560	12720	13080	20640	21000	21720	20880	15240	13080	17040	18000	19920	2208
10:00	21480	19920	13800	12960	13200	20880	20880	21960	21240	15600	13200	17280	18120	20040	2244
10:15	21240	19920	13920	13080	13440	21120	21360	22200	21480	15600	13200	17400	18480	20280	2268
10:30	22080	20040	13920	13440	13560	21240	21600	22440	21840	15960	13440	17520	18720	20400	2316
10:45	22320	20040	14040	13440	13800	21480	21600	22560	21720	16200	13680	17760	18600	20880	2280
11:00	22440	20160	14280	13680	13920	21960	21840	22920	21960	16200	13800	17640	18720	21360	2292
11:15	22440	20400	14400	13920	14160	21840	21960	23160	21960	16440	13800	17760	18360	21240	2304
11:30	22560	20520	14640	13920	14400	21840	22200	22800	21960	16680	13920	17640	18240	21240	2316
11:45	22560	20760	14640	13920	14280	21960	22200	23160	21960	16680	14040	17640	18240	21240	2268
12:00	23160	20520	14880	14160	14280	22320	22560	22920	22080	16560	14040	17760	18120	21360	2316
PAGE TOT	181800	200700	155580	142410	144210	190800	197760	202890	198150	171600	151320	162030	166410	185640	2069

TGL310 *** THE LODESTAR BILLING INTERFACE (REL. 1.01) ***

OCTOBER 1995 — DEMAND BILLING - ELECTRIC — DATE: 10/02
BILLING-ID: 1100 — DEMANDS AS TRANSLATED AND TOTALED — PAGE: 2
TRANS PERIOD FROM: 08/31 TO: 10/02
BILLING GROUP: W NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6940 CITY: ABERDEEN STATE: MD ZIP: 21005
TARIFF SCHEDULE: P

1/4 HOUR ENDING	08/31	09/01	09/02	09/03	09/04	09/05	09/06	09/07	09/08	09/09	09/10	09/11	09/12	09/13	09/1
12:15	23280	20760	14640	14040	14520	22440	22560	22920	22080	17040	13800	17760	18360	21360	2316
12:30	23400	20640	14760	14160	14640	22200	22680	22800	22200	17160	13920	17760	18480	21720	2304
12:45	23760	20880	14760	14160	14760	22200	22920	23160	22320	17040	13800	18000	18480	21720	2340
13:00	24000	21240	14880	14280	14880	23040	23040	23280	22560	17160	14040	18240	18720	22200	2364
13:15	24120	20880	15120	14040	15000	23040	23400	23640	22800	16920	14040	18360	18720	22320	2376
13:30	24360	20880	15000	14400	14880	23160	23400	23400	23040	16680	13800	18360	18840	22560	2412
13:45	24360	20880	15120	14400	15120	23400	23280	23400	23160	16800	13800	18360	18840	22680	2412
14:00	24360	20880	15000	14400	15000	23160	23520	23400	23280	17040	13920	18480	18840	22920	2400
14:15	24240	20880	15000	14280	15120	23280	23400	23520	23040	16920	14040	18480	19080	22800	2388
14:30	24360	20760	14880	14280	15000	23040	23520	23760	23160	16920	14160	18360	18840	22680	2376
14:45	24240	20280	15000	14520	15480	23520	23760	23760	23040	17040	14280	18600	18960	22920	2400
15:00	24480	20400	14880	14280	15240	23520	23640	23400	23160	16920	14400	18840	19080	23160	2412
15:15	24120	19920	14880	14520	15240	23520	23400	23400	23040	17040	13920	18840	18960	22920	2412
15:30	24120	19680	14880	14640	15240	23400	23400	23280	22680	16800	14280	18840	19080	22560	2388
15:45	23760	19200	14880	14520	15360	23400	23040	23160	22080	16920	14040	18840	18840	22200	2340
16:00	23280	18840	14880	14640	15360	22680	22920	22800	21480	17160	14040	18360	18480	21960	2316
16:15	22680	18600	14760	14520	15360	22200	22440	22320	20760	16800	14040	17880	18120	21480	2268
16:30	22080	18240	14760	14400	15480	21480	21840	21480	19920	17040	14040	17280	17160	21000	2160
16:45	21360	17640	14880	14520	15360	20760	20640	20520	19440	17160	14040	16320	16560	20040	2076
17:00	20760	17400	14640	14760	15600	19800	20280	20040	18720	16920	14160	15720	16200	19080	2004
17:15	20280	16920	14640	14760	15480	19440	19920	19560	18360	16680	14280	15360	15480	18840	1968
17:30	20040	16680	14520	14640	15600	19080	19560	19080	17880	16440	13800	15360	15240	18720	1932
17:45	19920	16560	14400	14640	15480	19080	19200	18960	17880	16440	13800	15000	15360	18480	1920
18:00	19680	15960	14400	14640	15480	18720	19200	18720	17520	16320	13800	14880	15240	18480	1884
18:15	19440	15960	14400	14400	15360	18720	18840	18240	17400	16200	13680	14640	15000	18120	1836
18:30	19320	15720	14040	14280	15120	18000	18480	17880	17040	15960	13440	14400	14760	17760	1848
18:45	18960	15480	14160	14160	15000	18000	18120	17520	16920	15720	13440	14280	14760	17520	1800
19:00	18840	15480	13920	14160	14880	17760	17880	17280	16680	16080	13200	13920	14760	17640	1800
19:15	18360	15240	13680	13560	14880	17280	17640	17040	16560	15840	13080	13800	14640	17760	1764
19:30	18480	15120	13560	13560	14760	17280	17400	16920	16440	15840	13320	13560	14760	17640	1788
19:45	18120	15240	13200	13560	15000	17160	17520	17280	16440	16080	13680	13800	15000	17640	1812
20:00	18120	15240	13320	13560	15120	17400	17760	17400	16680	16200	14040	14040	15000	17520	1788
20:15	18360	15120	13800	13800	15360	17520	17640	17400	16560	15960	14040	14040	14760	17400	1788
20:30	18240	15240	13440	13800	15360	17400	17880	17280	16320	16080	14040	13800	14640	17040	1764
20:45	18240	15120	13320	13560	15240	17280	17760	16920	16440	15840	13920	13800	14400	16920	1728
21:00	17880	14880	13560	13800	15240	16920	17520	16680	16440	15840	13800	13680	14280	16800	1692
21:15	17880	15000	13440	13320	14880	16920	17160	16560	15720	15720	13680	13320	13800	16440	1656
21:30	17640	14760	13440	13560	14880	16560	16920	16200	15600	15600	13440	13320	14040	16440	1644
21:45	17520	14640	13200	13440	14520	16440	16560	15960	15720	15600	13320	12960	13560	16080	1608
22:00	17400	14400	13200	13320	14280	15960	16320	15840	15480	15360	12840	12600	13320	15840	1572
22:15	17280	14400	12960	13200	14160	15840	15960	15480	15360	15240	12720	12600	13080	15480	1548
22:30	16920	14160	12960	13080	14160	15360	15960	15480	15120	15000	12360	12240	12840	15240	1536
22:45	16680	14160	13080	12960	13800	15240	15600	15120	15240	14640	12240	12240	12840	15240	1488
23:00	16440	14040	12720	12960	13440	14880	15480	14880	14880	14520	12000	11880	12360	15000	1476
23:15	16320	14040	12600	12720	13440	14640	14880	14520	14760	14400	11880	11760	12360	14760	1416
23:30	16200	13680	12480	12480	13200	14520	14760	14280	14520	14160	11640	11520	12240	14520	1392
23:45	16080	13560	12360	12480	12840	14160	14400	14040	14640	14160	11520	11400	12120	14520	1368
24:00	15840	13560	12240	12240	12960	14160	14400	14040	14400	13800	11280	11400	12120	14160	1344
PAGE TOT	243900	204810	168660	167100	178140	231240	234450	231000	223740	193800	162210	184320	190350	227070	2340
DAY TOT	425700	405510	324240	309510	322350	422040	432210	433890	421890	365400	313530	346350	356760	412710	4409

TGL310 *** THE LODESTAR BILLING INTERFACE (REL. 1.01) ***

OCTOBER 1995 — DEMAND BILLING - ELECTRIC — DATE: 10/02/
BILLING-ID: 1100 — DEMANDS AS TRANSLATED AND TOTALED — PAGE: 3
TRANS PERIOD FROM: 08/31 TO: 10/02
BILLING GROUP: W NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6940
TARIFF SCHEDULE: P CITY: ABERDEEN STATE: MD ZIP: 21005

1/4 HOUR ENDING	09/15	09/16	09/17	09/18	09/19	09/20	09/21	09/22	09/23	09/24	09/25	09/26	09/27	09/28	09/29
00:15	13440	12720	11400	11400	11400	11880	12120	13200	11040	10680	10800	10200	10080	10080	1032(
00:30	13080	12360	11400	11280	11040	11760	12120	13200	11160	10560	10560	10080	9960	9960	1044(
00:45	13200	12360	11280	11160	11160	11640	12000	13200	10920	10560	10320	9840	9840	9960	1008(
01:00	12960	12120	11280	11040	11040	11640	11880	12840	10800	10440	10560	9960	9720	9960	996(
01:15	13080	12120	11160	11040	11040	11520	11880	12840	10800	10320	10440	9960	9840	9840	1020(
01:30	12960	12000	11160	11040	10800	11520	11760	12840	10680	10200	10200	9720	9840	9960	996(
01:45	12600	11880	11040	11040	10800	11520	11640	12720	10800	10200	10200	9720	9720	9720	996(
02:00	12600	12120	10920	10920	10920	11520	11880	12600	10560	10320	10200	9720	9600	9720	984(
02:15	12600	11880	11160	10920	10920	11400	11520	12480	10560	10200	10320	9960	9720	9840	996(
02:30	12360	11880	10920	10920	10800	11280	11640	12720	10560	10080	10200	9720	9720	9840	984(
02:45	12360	11760	11040	10800	10680	11160	11520	12480	10680	10080	10200	9720	9600	9840	984(
03:00	12360	11760	11040	10920	10800	11280	11640	12600	10320	10320	10200	9840	9840	9720	996(
03:15	12240	11760	10920	11040	10920	11280	11640	12480	10440	10080	10320	9720	9600	9840	984(
03:30	12120	11520	11040	11040	10800	11160	11640	12600	10440	9960	10200	9720	9600	9720	984(
03:45	12120	11640	11160	11040	10680	11280	11640	12480	10320	10080	10320	9720	9600	9720	996(
04:00	12120	11760	11040	11040	10920	11280	11760	12600	10560	9960	10200	9840	9720	9840	1020(
04:15	12120	11640	10920	11160	10680	11400	11880	12840	10320	10080	10560	9840	9960	9960	1008(
04:30	12480	11640	10800	11160	10920	11400	11880	12840	10440	9840	10440	10200	9960	9960	1008(
04:45	12360	11760	11040	11280	11160	11640	12000	12840	10320	10200	10800	10080	10080	10200	1008(
05:00	12600	11760	10920	11520	11400	11640	12240	13080	10440	9960	10800	10320	10200	10080	1032(
05:15	12480	11640	10920	11400	11520	12000	12600	13320	10440	10080	11040	10680	10200	10320	1032(
05:30	12720	11760	10920	11520	11760	12120	12600	13320	10200	10080	11160	10680	10560	10560	1056(
05:45	12840	11880	10920	11760	11880	12360	12840	13440	10440	9960	11520	11040	10800	10680	1092(
06:00	13080	11880	10920	12240	12240	12840	13440	13920	10560	10080	12120	11400	11160	11280	1092(
06:15	13560	12120	11160	12720	12840	13440	14040	14400	10680	10200	12600	12000	11760	12000	1164(
06:30	14160	12240	11040	13200	13080	13920	14520	15120	11040	10200	12960	12480	12240	12240	1188(
06:45	14400	12360	11160	13920	14040	14640	15360	15840	11040	10200	13800	13200	12960	13200	1248(
07:00	14640	12240	11160	14400	14520	15000	16080	16320	11280	10320	14280	13920	13440	13680	1296(
07:15	15120	11880	11040	15240	14880	15600	16680	17040	11160	10320	14760	14520	14160	14040	1308(
07:30	15600	12000	11040	15720	15360	16200	17040	17760	11280	10320	15120	15000	14400	14520	1344(
07:45	15840	12120	11160	16200	16200	17040	17520	18720	11160	10320	15600	15600	15120	15360	1356(
08:00	16440	12360	11160	16920	16680	17640	18120	19200	11280	10680	16680	16080	15840	15840	1392(
08:15	17040	12600	11280	17280	16920	17880	18840	19560	11640	11040	17040	16320	15960	16440	1428(
08:30	16800	12600	11520	17640	16800	18120	18960	19920	11760	11160	17040	16320	16200	16320	1416(
08:45	17160	12960	11760	17520	17280	18120	19080	20040	11880	11040	17280	16440	16320	16560	1428(
09:00	17280	12960	11760	17160	17400	18000	19200	20160	12240	11520	17040	16560	16320	16680	1416(
09:15	17160	13080	11760	17760	17160	18240	19440	20160	12240	11520	17280	16680	16440	17040	1428(
09:30	17400	13200	12000	17880	17160	18360	19800	20280	12360	11640	17160	17040	16440	16560	1440(
09:45	17760	13200	12240	17880	17280	18240	19800	20160	12480	11520	17280	16920	16440	16800	1440(
10:00	18000	13440	12120	18000	17400	18720	20040	20160	12600	11640	17400	16920	16440	16920	1452(
10:15	18240	13320	12360	18360	17400	18720	20160	20520	12600	11880	17520	16920	16440	16800	1452(
10:30	18240	13680	12600	18360	17760	18720	20280	20400	12720	12000	17520	16920	16680	17040	1476(
10:45	18480	13440	12600	18480	17880	19320	20520	20400	12840	12120	17640	16920	16920	17040	1476(
11:00	18480	13440	12600	18480	17880	19320	20640	20040	12600	12120	17760	16920	16680	16920	1476(
11:15	18240	13560	12840	18600	17760	19080	20880	20040	12720	12000	17640	16920	16800	16800	1476(
11:30	18480	13680	12960	18480	17880	19080	20520	19680	12720	12120	17640	16680	16560	16800	1464(
11:45	18360	13560	12960	18480	17760	19200	20520	19680	12720	12240	17520	16800	16440	16560	1476(
12:00	18120	13680	13320	18720	17880	19080	20400	19800	12720	12240	17640	16680	16440	16680	1452(
PAGE TOT	176970	148830	137730	169020	165870	175050	184050	191220	135390	128670	161970	155610	153090	154860	144600

TGL310 *** THE LODESTAR BILLING INTERFACE (REL. 1.01) ***

OCTOBER 1995 — DEMAND BILLING - ELECTRIC — DATE: 10/02/
BILLING-ID: 1100 — DEMANDS AS TRANSLATED AND TOTALED — PAGE: 4
TRANS PERIOD FROM: 08/31 TO: 10/02
BILLING GROUP: W NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6940
TARIFF SCHEDULE: P CITY: ABERDEEN STATE: MD ZIP: 21005

1/4 HOUR ENDING	09/15	09/16	09/17	09/18	09/19	09/20	09/21	09/22	09/23	09/24	09/25	09/26	09/27	09/28	09/29
12:15	18480	13920	13680	18720	18240	19320	20400	19560	12720	12120	17520	16800	16440	16800	1476(
12:30	18360	13680	13560	18720	17880	19200	20760	19560	12720	12240	17280	16680	16560	16920	1476(
12:45	18480	13680	13320	18840	18240	19440	20640	19560	12840	12360	17520	16800	16680	16920	1476(
13:00	18960	13560	13440	18960	18000	19920	21120	19560	12600	12240	17640	16800	16800	16920	1476(
13:15	19080	13440	13440	19560	18480	20040	21120	20040	12600	12240	17640	16920	16800	17280	1488(
13:30	19200	13320	13440	19680	18480	20280	21360	20160	12480	12120	17400	16920	16920	17640	1500(
13:45	19320	13320	13920	19680	18360	20280	21720	20040	12480	12120	17040	16800	17160	17760	1476(
14:00	19200	13440	13560	19680	18480	20160	21600	19920	12240	12120	16920	17160	17160	17640	1476(
14:15	19320	12960	13560	19560	18480	20280	21600	19920	12000	11880	16800	16800	17400	17640	1512(
14:30	19080	13080	13800	19560	18600	20280	21360	19800	11880	12120	16800	16920	17160	17640	1476(
14:45	19080	12840	13680	19680	18720	20400	21480	19920	11880	12240	16800	16680	17280	17520	1488(
15:00	19200	12960	13560	19800	18480	20520	21720	19800	11880	12120	16800	16680	17160	17520	1476(
15:15	19080	12960	13560	19680	18240	20400	21720	19560	11880	12000	16560	16440	17400	17400	1452(
15:30	18960	12840	13440	19680	18360	20280	21360	19080	11880	11880	16440	16200	16920	17280	1428(
15:45	18720	12960	13440	19320	17880	19800	21360	18720	11640	12120	16080	15960	16920	17040	1416(
16:00	18240	12600	13680	19080	17520	19440	20880	18360	11760	11880	15960	15720	16800	16440	1380(
16:15	17640	12840	13320	18600	17160	19080	20280	17640	11640	12120	15240	15600	16320	16320	1356(
16:30	17040	12720	13560	17400	16800	18240	19800	17160	11520	12000	14640	14880	15360	15600	1320(
16:45	16800	12720	13560	16440	16200	17160	18720	16440	11520	11760	13680	14160	14520	14880	1296(
17:00	16440	12600	13680	15720	15840	16920	18240	16440	11520	11760	13320	13800	14040	14640	1260(
17:15	15840	12720	13680	15360	15480	16320	17760	15720	11520	11880	12840	13320	13680	14280	1260(
17:30	15720	12720	13680	15240	15480	16200	17520	15120	11400	11760	12960	12840	13560	14160	1248(
17:45	15600	12480	13560	14760	15600	15960	17040	14880	11520	11880	12600	12600	13320	13680	1236(
18:00	15240	12840	13560	14760	15240	15720	17040	14760	11280	12240	12600	12480	13080	13680	1212(
18:15	15120	12600	13680	14280	15240	15600	16680	14640	11160	12120	12600	12480	12960	13320	1200(
18:30	15000	12720	13320	14400	15000	15240	16440	14160	11280	12240	12480	12240	12600	13200	1176(
18:45	14880	12360	13440	14280	14880	15000	16320	14040	11400	12360	12480	12360	12600	13080	1176(
19:00	14880	12480	13440	14280	14880	15000	16200	13800	11160	12360	12480	12240	12600	13080	1176(
19:15	14520	12840	13320	14160	14880	15000	16200	13920	11400	12720	12720	12480	12840	13320	1176(
19:30	14640	12720	13560	14280	15000	15240	16320	13920	11880	12720	12600	12240	12960	13440	1188(
19:45	14880	12960	13800	14520	15480	15240	16560	13800	11880	12720	12600	12600	13080	13560	1224(
20:00	14640	13080	13800	14520	15240	15120	16560	13680	11760	12840	12720	12600	12960	13680	1188(
20:15	14760	12960	13800	14400	15240	15120	16440	13560	11880	12720	12720	12600	12960	13320	1200(
20:30	14760	12840	13560	13920	14880	14880	16200	13320	11760	12960	12480	12480	12840	12840	1200(
20:45	14280	12720	13560	14040	14880	14640	15960	13320	11760	12480	12240	12360	12720	12720	1164(
21:00	14280	12840	13560	13680	14520	14520	15840	12960	11760	12600	12120	12120	12480	12600	1164(
21:15	14040	12600	13440	13680	13920	14280	15600	12840	11520	12360	11880	12120	12360	12240	1164(
21:30	14040	12480	13320	13320	13800	14280	15480	12840	11640	12000	11880	11760	12240	12120	1140(
21:45	13920	12360	13080	13080	13440	13920	15360	12720	11520	12120	11760	11640	12120	11760	1140(
22:00	13920	12240	13080	13080	13320	13680	14640	12480	11640	11880	11400	11400	11880	11520	1128(
22:15	13800	12120	12720	12480	13440	13560	14880	12480	11280	11760	11160	11160	11520	11520	1116(
22:30	13680	11880	12600	12480	13080	13320	14400	12240	11280	11640	10920	10920	11400	11280	1092(
22:45	13680	11880	12480	12000	12840	12840	14040	12120	11280	11280	10800	10800	11040	11040	1104(
23:00	13440	11760	12000	11880	12600	12720	13920	11760	11040	11280	10680	10560	10800	10800	1080(
23:15	13320	11760	12000	11760	12480	12720	13560	11880	11280	11160	10560	10440	10800	10800	1068(
23:30	13320	11520	11760	11760	12240	12600	13560	11520	10800	10800	10560	10320	10320	10680	1056(
23:45	12720	11640	11640	11400	12120	12360	13320	11520	10920	10800	10200	10080	10200	10560	1044(
24:00	12840	11400	11520	11400	11880	12360	13200	11160	10800	10800	10200	9960	10080	10200	1020(
PAGE TOT	193110	152490	159540	189390	188880	198720	213570	188100	140370	144480	165330	163980	168450	171570	152610
DAY TOT	370080	301320	297270	358410	354750	373770	397620	379320	275760	273150	327300	319590	321540	326430	297210

TGL310 *** THE LODESTAR BILLING INTERFACE (REL. 1.01) ***

OCTOBER 1995 DEMAND BILLING - ELECTRIC DATE: 10/02/
BILLING-ID: 1100 DEMANDS AS TRANSLATED AND TOTALED PAGE: 5
TRANS PERIOD FROM: 08/31 TO: 10/02
BILLING GROUP: W NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6940
TARIFF SCHEDULE: P CITY: ABERDEEN STATE: MD ZIP: 21005

1/4 HOUR ENDING	09/30	10/01	10/02
00:15	10320 S	10320 S	9600 M
00:30	10440	9960	9720
00:45	10080	10080	9720
01:00	10080	9840	9480
01:15	10080	9720	
01:30	9840	9720	
01:45	9960	9480	
02:00	9840	9600	
02:15	9960	9720	
02:30	9840	9480	
02:45	9720	9480	
03:00	9720	9480	
03:15	9720	9480	
03:30	9720	9360	
03:45	9720	9480	
04:00	9720	9480	
04:15	9720	9360	
04:30	9720	9480	
04:45	9480	9360	
05:00	9720	9360	
05:15	9840	9480	
05:30	9840	9360	
05:45	9720	9360	
06:00	9960	9360	
06:15	9960	9600	
06:30	10200	9600	
06:45	10200	9720	
07:00	9960	9600	
07:15	9960	9360	
07:30	10080	9480	
07:45	10200	9600	
08:00	10320	9720	
08:15	10800	9840	
08:30	10920	10080	
08:45	10920	10320	
09:00	10920	10440	
09:15	11160	10560	
09:30	11520	10800	
09:45	11280	10800	
10:00	11400	10920	
10:15	11520	10920	
10:30	11520	11040	
10:45	11640	11160	
11:00	11520	11400	
11:15	11640	11280	
11:30	11760	11280	
11:45	11640	11280	
12:00	11760	11160	
PAGE TOT	124890	119940	9630

TGL310 *** THE LODESTAR BILLING INTERFACE (REL. 1.01) ***

OCTOBER 1995
BILLING-ID: 1100
TRANS PERIOD FROM: 08/31 TO: 10/02
BILLING GROUP: W
ROUTE: 9726 FOLIO: 6940
TARIFF SCHEDULE: P

DEMAND BILLING - ELECTRIC
DEMANDS AS TRANSLATED AND TOTALED

NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA

CITY: ABERDEEN STATE: MD ZIP: 21005

1/4 HOUR ENDING	09/30	10/01	10/02
12:15	11760	11400	
12:30	11640	11280	
12:45	11760	11520	
13:00	11520	11280	
13:15	11520	11520	
13:30	11640	11520	
13:45	11520	11640	
14:00	11640	11280	
14:15	11400	11400	
14:30	11400	11280	
14:45	11280	11160	
15:00	11280	11400	
15:15	11520	11280	
15:30	11400	11400	
15:45	11400	11400	
16:00	11280	11280	
16:15	11400	11280	
16:30	11160	11400	
16:45	11520	11280	
17:00	11400	11400	
17:15	11520	11160	
17:30	11400	11280	
17:45	11280	11280	
18:00	11160	11160	
18:15	11040	11280	
18:30	11040	11160	
18:45	11160	11400	
19:00	11160	11400	
19:15	11160	11760	
19:30	11640	12000	
19:45	11520	12000	
20:00	11520	11880	
20:15	11640	12000	
20:30	11520	11880	
20:45	11280	11520	
21:00	11400	11400	
21:15	11280	11520	
21:30	11160	11400	
21:45	11040	11040	
22:00	11040	11040	
22:15	11040	10680	
22:30	10800	10440	
22:45	10560	10560	
23:00	10560	10200	
23:15	10320	10080	
23:30	10320	10080	
23:45	10200	9960	
24:00	10200	9840	
PAGE TOT	134850	134700	0
DAY TOT	259740	254640	9630

TGL310 *** THE LODESTAR BILLING INTERFACE (REL. 1.01) ***

OCTOBER 1995 — DEMAND BILLING - ELECTRIC — DATE: 10/02/
BILLING-ID: 1100 — TOD DEMAND SUMMARY — PAGE: 1
TRANS PERIOD FROM: 08/31 TO: 10/02

BILLING GROUP: W NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6940
TARIFF SCHEDULE: P CITY: ABERDEEN STATE: MD ZIP: 21005
TAX CLASS: 7 CITY/COUNTY CODE: 6

SUMMER KW

ON PEAK KW	DATE	TIME	90%KVA	DATE	TIME
24360	AUG 31	13:45			
24360	AUG 31	14:00			
24360	AUG 31	15:00			
3854073 KWH					
INT PEAK KW	**DATE**	**TIME**	**90%KVA**	**DATE**	**TIME**
22560	SEP 14	10:15			
22260	SEP 14	10:00			
22080	SEP 07	10:15			
2017926 KWH					
OFF PEAK KW	**DATE**	**TIME**	**90%KVA**	**DATE**	**TIME**
17940	SEP 14	07:15			
17160	SEP 14	07:00			
17100	SEP 09	12:30			
5093725 KWH					
10965724 TOTAL SUMMER KWH					

PROD & TRANS BILLING DEMAND IS 24360 KW AUG 31 13:45

DISTRIBUTION BILLING DEMAND IS 24360 KW AUG 31 13:45

NON - SUMMER KW

ON PEAK KW	DATE	TIME	90%KVA	DATE	TIME
0					
0					
0					
0 KWH					
INT PEAK KW	**DATE**	**TIME**	**90%KVA**	**DATE**	**TIME**
0					
0					
0					
0 KWH					
OFF PEAK KW	**DATE**	**TIME**	**90%KVA**	**DATE**	**TIME**
12000	OCT 01	19:45			
11940	OCT 01	20:00			
11940	OCT 01	20:15			
264276 KWH					
264276 TOTAL NON-SUMMER KWH					

PROD & TRANS BILLING DEMAND IS 200 KW

DISTRIBUTION BILLING DEMAND IS 12000 KW OCT 01 19:45

THIS CUSTOMER HAS ELECTRIC RIDERS:

TRANSLATION HISTORY OF LAST 12 OCCURENCES

		SUMMER DATA						NON-SUMMER DATA						
BILL DATE	BILL ADJ	PROD DEM	DIST DEM	TOTAL KWH	ON PEAK KWH	INT PEAK KWH	OFF PEAK KWH	BILL DATE	BILL ADJ	PROD DEM	DIST DEM	TOTAL KWH	ON PEAK KWH	INT PEAK KWH	OFF PEAK KWH
9509	YES	26880	26880	12415000	4604218	2366799	5443983	9509							
9508	YES	27180	27180	13680000	4802092	2422091	6455817	9508							
9507	YES	24840	24840	10703000	3974633	2085533	4642834	9507							
9506	YES	19140	19140	167560	38004	51891	77665	9506	YES	21240	21900	9517440	2551242	2225313	4740885
9505								9505	YES	20940	20940	9767000	2431866	1969209	5365925
9504								9504	YES	23400	23400	10331000	2802634	2288892	5239474
9503								9503	YES	26400	26020	12274000	3233728	2511655	6528617
9502								9502	YES	23400	23400	10492000	2847093	2243296	5401611
9501								9501	YES	21120	20760	10801000	2631487	2012328	6157185
9412								9412	YES	19440	19440	9595000	2624416	2091784	4878800
9411								9411	YES	17700	17700	8358000	2346967	1915178	4095855
9410	YES	22560	22560	10255934	3844220	1961618	4450096	9410	YES	17820	17820	716066	68783	30716	616567

ADDITIONAL LISTING 1

NOVEMBER 1995 — DEMAND BILLING - ELECTRIC — DATE: 11/09/
BILLING-ID: 1100 — TRANSLATION CONTROL SUMMARY — PAGE: 1
TRANS PERIOD FROM: 10/02 TO: 10/31

BILLING GROUP: W NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6940
TARIFF SCHEDULE: P CITY: ABERDEEN STATE: MD ZIP: 21005
TAX CLASS: 7 CITY/COUNTY CODE: 6

RECORDER ID: 110001

CHAN	PULSE CONST	MT ST	METERED USE	TRANSLATED USE	PERCENTAGE DIFF		
1	30.000000	1	3827000	3827010	0.00026	START TIME - 10/02/95-01:01	EXPECTED NO INTERVALS: 2789
2	30.000000	1	4954000	4954530	0.01070	END TIME - 10/31/95-01:15	INSERTED NO INTERVALS: 0
						RECORDER STOP TIME - 01:14	RECORDED NO INTERVALS: 2789
						START - DAY OF WEEK - 2	MISSING NO INTERVALS : 0

	PULSES					CONSUMPTION				
DATE	CHAN 1 PULSES	CHAN 2 PULSES	CHAN 3 PULSES	CHAN 4 PULSES	TOTAL PULSES	CHAN 1 KWH	CHAN 2 KWH	CHAN 3 KWH	CHAN 4 KWH	TOTAL KWH
10/02/95	5008	5480			10488	150240.0	164400.0			314640.0
10/03/95	5321	5782			11103	159630.0	173460.0			333090.0
10/04/95	5479	5938			11417	164370.0	178140.0			342510.0
10/05/95	5680	6169			11849	170400.0	185070.0			355470.0
10/06/95	5933	6392			12325	177990.0	191760.0			369750.0
10/07/95	5018	4842			9860	150540.0	145260.0			295800.0
10/08/95	4419	4240			8659	132570.0	127200.0			259770.0
10/09/95	4313	4207			8520	129390.0	126210.0			255600.0
10/10/95	5188	5654			10842	155640.0	169620.0			325260.0
10/11/95	5333	6051			11384	159990.0	181530.0			341520.0
10/12/95	5277	6058			11335	158310.0	181740.0			340050.0
10/13/95	5022	5341			10363	150660.0	160230.0			310890.0
10/14/95	3814	4836			8650	114420.0	145080.0			259500.0
10/15/95	3135	4910			8045	94050.0	147300.0			241350.0
10/16/95	3791	6210			10001	113730.0	186300.0			300030.0
10/17/95	3939	6480			10419	118170.0	194400.0			312570.0
10/18/95	3850	6563			10413	115500.0	196890.0			312390.0
10/19/95	3842	6580			10422	115260.0	197400.0			312660.0
10/20/95	3733	6540			10273	111990.0	196200.0			308190.0
10/21/95	3344	4824			8168	100320.0	144720.0			245040.0
10/22/95	3374	4401			7775	101220.0	132030.0			233250.0
10/23/95	4126	6275			10401	123780.0	188250.0			312030.0
10/24/95	4206	6286			10492	126180.0	188580.0			314760.0
10/25/95	4129	6110			10239	123870.0	183300.0			307170.0
10/26/95	4216	6246			10462	126480.0	187380.0			313860.0
10/27/95	4139	5945			10084	124170.0	178350.0			302520.0
10/28/95	3562	5124			8686	106860.0	153720.0			260580.0
10/29/95	3800	5130			8930	114000.0	153900.0			267900.0
10/30/95	4403	6267			10670	132090.0	183010.0			320100.0
10/31/95	173	270			443	5190.0	8100.0			13290.0
TOTAL	127567	165151			292718	3827010.0	4954530.0			8781540.0

LODESTAR CUSTID	CH	MT ST	START TIME	STOP TIME	METER NUMBER	START INDEX	STOP INDEX	METER MULTIPLIER	METERED USE
1100011	1	1	10/02/95-01:01	10/31/95-01:14	50946244	8743.0	12570.0	1000.000000	3827000.0
1100012	2	1	10/02/95-01:01	10/31/95-01:14	50961016	96427.0	1381.0	1000.000000	4954000.0

NOVEMBER 1995
BILLING-ID: 1100
TRANS PERIOD FROM: 10/02 TO: 10/31

DEMAND BILLING - ELECTRIC
TRANSLATION CONTROL - TOD USAGE SUMMARY

BILLING GROUP: W NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6940
TARIFF SCHEDULE: P CITY: ABERDEEN STATE: MD ZIP: 21005
TAX CLASS: 7 CITY/COUNTY CODE: 6

RECORDER ID: 110001
ADJUSTMENT OF TRANSLATION TO METER READINGS

CHAN	TRANS TOTAL		TRANSLATED USAGE BY PEAKS ON	INT	OFF	TRANSLATED PERCENTAGES ON	INT	OFF	METER TOTAL		METERED USAGE BY PEAKS ON	INT	OFF
1	3827010	SUM							3827000	SUM			
		NON	1066500	852690	1907820	27.8677	22.2808	49.8515		NON	1066497	852686	1907817
2	4954530	SUM							4954000	SUM			
		NON	1354500	1172250	2427780	27.3386	23.6601	49.0013		NON	1354354	1172121	2427525

MAX 60 MIN DEMAND SUMMARY

CHAN	DATE	TIME	DEMAND
1	10/06/95	14:00	9270
2	10/06/95	14:00	11040

TGL310 *** THE LODESTAR BILLING INTERFACE (REL. 1.01) ***

NOVEMBER 1995 — DEMAND BILLING - ELECTRIC — DATE: 11/09/
BILLING-ID: 1100 — DEMANDS AS TRANSLATED AND TOTALED — PAGE: 1
TRANS PERIOD FROM: 10/02 TO: 10/31
BILLING GROUP: W NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6940
TARIFF SCHEDULE: P CITY: ABERDEEN STATE: MD ZIP: 21005

1/4 HOUR ENDING	10/02	10/03	10/04	10/05	10/06	10/07	10/08	10/09	10/10	10/11	10/12	10/13	10/14	10/15	10/16
00:15		10320	10920	10680	12480	12000	10800	9960	9720	10560	10920	10320	10200	9840	9240
00:30		10080	10800	10560	12480	11640	10920	9960	9840	10440	10560	10320	9960	9720	9240
00:45		9960	10800	10680	12480	11760	10560	9840	9600	10560	10800	10320	9960	9600	9120
01:00		9960	10680	10320	12240	11520	10680	9720	9600	10200	10560	10080	10080	9600	9000
01:15	9720	10200	10800	10440	12000	11520	10560	9600	9480	10440	10560	10440	9720	9360	8760
01:30	9480	9840	10680	10560	11880	11400	10560	9720	9720	10200	10560	10200	9960	9480	8880
01:45	9480	9840	10680	10320	11880	11400	10320	9480	9480	10440	10440	9960	9840	9360	9120
02:00	9360	9840	10560	10440	11760	11280	10320	9480	9480	10440	10320	9960	9600	9360	8880
02:15	9360	9840	10440	10320	11640	11280	10200	9720	9480	10440	10440	9960	9720	9240	9000
02:30	9360	9840	10560	10320	11520	11160	10080	9480	9480	10440	10320	10080	9840	9240	8880
02:45	9360	9600	10440	10320	11640	11160	10200	9360	9360	10440	10440	9960	9720	9120	9000
03:00	9360	9600	10440	10440	11520	11160	9960	9240	9480	10320	10440	9960	9840	9000	8760
03:15	9240	9840	10560	10320	11400	11040	10080	9600	9480	10320	10440	9960	9600	9120	9000
03:30	9360	9600	10560	10200	11400	11160	9960	9240	9480	10440	10320	9960	9720	9000	9000
03:45	9360	9840	10560	10440	11640	11040	9840	9360	9360	10200	10440	9960	9840	8880	8830
04:00	9360	9720	10560	10440	11400	11160	10080	9360	9600	10440	10440	9960	9720	9000	9000
04:15	9360	9960	10560	10560	11760	11040	9960	9360	9600	10560	10440	10320	9720	9000	9120
04:30	9480	10080	10800	10680	11880	11040	9960	9360	9840	10680	10800	10200	9960	8880	9360
04:45	9600	10200	10800	10800	11760	10920	9840	9360	10080	10680	10800	10320	9600	9000	9480
05:00	9960	10440	11040	10680	11640	10920	9720	9360	9960	10800	10920	10440	9840	8760	9480
05:15	9960	10560	11040	11040	11880	11040	9960	9480	10320	11280	11160	10440	9960	9000	9720
05:30	10320	10800	11400	11280	12240	11040	9840	9480	10440	11160	11400	10800	9720	9000	9960
05:45	10440	10920	11520	11520	12240	10920	9960	9360	10680	11520	11520	10800	9840	8880	10200
06:00	10920	11400	12000	11880	12720	11040	9720	9480	11040	11880	11880	11400	9960	9000	10680
06:15	11400	12000	12600	12600	13320	11400	10080	9840	11760	12480	12360	11880	10320	9120	11280
06:30	12000	12480	13080	12960	13680	11640	10080	9600	12360	12480	12720	12360	10440	9240	11880
06:45	12720	13080	13920	14040	14520	11880	9840	9840	13200	13560	13560	12840	10200	9120	12600
07:00	13440	13680	14520	14640	15240	11760	10200	9600	13920	14280	14280	13320	10680	9360	13560
07:15	13800	14160	15240	15480	15600	11760	9720	9720	14520	15000	15000	13560	10320	9120	14040
07:30	14520	14760	15720	16080	16200	11640	9720	9360	14880	15480	15600	13920	10560	9240	14760
07:45	14880	15120	16200	16560	16560	11880	9840	9840	15360	15960	15840	14400	10200	9120	15120
08:00	15480	15480	17040	17160	17280	12000	9960	9720	15840	16440	16320	14640	10200	9120	15720
08:15	15960	15720	17040	17280	17640	12000	10080	9720	15960	16800	16560	14640	10320	9480	15960
08:30	16080	16200	17280	17280	18000	12360	10080	10080	16200	16920	16560	14880	9480	9360	16080
08:45	16080	16320	17520	17760	18120	12480	10440	10200	16080	17040	16920	14880	9720	9720	16200
09:00	16080	16320	17280	17760	18240	12720	10680	10320	16560	17160	16920	15120	9960	9720	16200
09:15	16320	16440	17640	17760	18600	12960	10680	10560	16320	16920	17160	15360	10080	9960	16320
09:30	16320	16440	17640	18000	18840	13080	10920	10560	16680	17040	17040	15360	10560	10080	15960
09:45	16200	16440	17640	17640	18960	13440	11160	11040	16440	17160	17160	15240	10920	10200	16200
10:00	16560	16560	18000	18240	19320	13440	11160	10920	16680	17280	17280	15720	10800	10440	15960
10:15	16680	16800	18000	18240	19320	13800	11040	11040	16680	17520	17640	15840	11040	10440	16200
10:30	16800	16680	18240	18240	19800	13560	11400	11280	16680	17640	17760	15720	11160	10560	15960
10:45	16920	16800	18360	18240	19440	13680	11040	11040	16680	17760	17760	15840	11160	10560	16080
11:00	16800	16680	18120	18480	19800	13320	11160	11280	16680	17760	17880	16200	11040	10200	15720
11:15	16920	17040	18240	18360	19560	13680	11400	11280	16920	17760	17880	15840	11160	10560	15840
11:30	16920	16800	17880	18120	19440	13680	11400	11400	16440	17640	17520	15840	11040	10440	15600
11:45	17040	16920	18000	18120	19560	13680	11400	11280	16800	17640	17760	15960	11040	10680	15480
12:00	17040	16920	18000	18120	19680	13800	11640	11400	16680	17760	18000	15960	11280	10680	15480
PAGE TOT	141450	154530	165600	165600	178050	143820	124800	119820	152730	162090	162600	150360	122400	114240	146490

TGL310 *** THE LODESTAR BILLING INTERFACE (REL. 1.01) ***

NOVEMBER 1995 — DEMAND BILLING - ELECTRIC — DATE: 11/09/
BILLING-ID: 1100 — DEMANDS AS TRANSLATED AND TOTALED — PAGE: 2
TRANS PERIOD FROM: 10/02 TO: 10/31
BILLING GROUP: W NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6940
TARIFF SCHEDULE: P CITY: ABERDEEN STATE: MD ZIP: 21005

1/4 HOUR ENDING	10/02	10/03	10/04	10/05	10/06	10/07	10/08	10/09	10/10	10/11	10/12	10/13	10/14	10/15	10/16
12:15	16920	17280	17880	18120	19560	13800	11520	11400	16680	17880	18000	15960	11520	10630	15600
12:30	17160	17280	18000	18120	19680	14040	11640	11400	16800	17880	18120	15840	11640	10680	15480
12:45	17160	17280	18120	18240	19680	13800	11520	11520	16560	17880	17880	16080	11760	10800	15360
13:00	17520	17520	18360	18240	20280	13560	11520	11280	16800	18000	18360	16200	11640	10800	15600
13:15	17880	17520	18360	18240	20400	13680	11520	11400	17040	18240	18360	16560	11760	10680	15480
13:30	18000	17760	18360	18480	20400	13680	11640	11280	16800	18240	18720	16560	11640	10680	15960
13:45	17880	17640	18360	18360	20280	13680	11520	11640	17160	18360	18720	16440	11760	10680	15600
14:00	18120	17760	18120	18480	20160	13680	11520	11400	17160	18360	18720	16440	11640	10560	15600
14:15	18000	18000	18240	18360	20400	13440	11640	11400	16920	18240	18720	16080	11520	10440	15480
14:30	17880	17520	18360	18360	19920	13560	11520	11400	17040	18240	18600	16080	11880	10560	15360
14:45	18120	17880	18120	18600	19800	13200	11520	11520	17280	18480	18480	16200	11640	10560	15600
15:00	18120	17760	18240	18840	19920	13440	11520	11400	17280	18360	18720	16200	11880	10320	15480
15:15	18000	17760	18240	18960	19560	13200	11640	11520	17520	18360	18480	15960	12000	10440	15240
15:30	18000	18000	18240	18840	18600	12960	11640	11520	17400	18240	18120	15840	12120	10440	15360
15:45	17760	18000	17760	18840	18000	13080	11400	11520	17160	17880	17880	15720	11880	10440	14880
16:00	17520	17400	17760	18120	17520	13080	11520	11280	16920	17760	17640	15240	11760	10560	14520
16:15	17040	17280	16920	17520	17040	12720	11640	11400	16440	17040	17160	14880	11640	10560	14160
16:30	16080	16200	15840	16680	16800	12960	11400	11280	15840	16560	16440	14040	11880	10680	12960
16:45	15000	15600	14880	15720	16200	13080	11400	11280	15000	15360	15480	13560	11880	10440	12000
17:00	14640	15000	14280	15360	15960	12720	11400	11280	14520	15120	14880	13200	11520	10560	11880
17:15	14160	14640	14040	15240	15360	12600	11400	11520	14160	14760	14520	12840	11520	10560	11400
17:30	13920	14400	13920	14880	15240	12480	11160	11640	13920	14400	14280	12840	11640	10560	11280
17:45	13800	14280	13800	14880	15120	12480	11160	11520	13800	14280	13800	12480	11640	10680	11400
18:00	13440	14160	13560	14760	15000	12360	11280	11280	13440	13920	13680	12480	11640	10560	11040
18:15	13320	13920	13440	14760	14640	12240	11040	11400	13320	13680	13560	12240	12000	10560	11160
18:30	13080	14160	13440	14880	14280	12480	11160	11400	13320	13800	13680	12120	12000	10680	11280
18:45	13080	13920	13560	14880	14160	12360	11160	11400	13440	13920	13440	12120	11880	10920	11520
19:00	12960	14040	13560	14880	14280	12600	11400	11640	13560	13800	13680	12360	11880	11400	12120
19:15	13080	14040	13560	14760	14520	12720	11400	12000	13800	14040	13680	12360	11880	11280	11640
19:30	13320	14280	13440	14760	14400	12600	11640	11880	13800	13800	13560	12480	12000	11280	11880
19:45	13440	14280	13440	15240	14520	12720	11520	12120	13800	13920	13680	12240	11880	11520	12240
20:00	13320	13920	13320	15120	14400	12600	11520	12000	13680	13680	13560	12120	11760	11160	12120
20:15	13080	13920	13320	14760	14400	12600	11520	11880	13560	13560	13320	12360	11760	11520	12120
20:30	12840	13680	13200	15000	14160	12600	11400	11880	13320	13440	13080	12000	11520	11160	12120
20:45	12840	13320	12960	14640	13920	12480	11280	11640	12840	13200	12840	11880	11040	11040	12000
21:00	12360	13440	12720	14520	13800	12360	11280	11760	12720	12960	12480	11760	11040	11280	11880
21:15	12240	13080	12840	14400	13680	12240	11040	11520	12600	12960	12480	11520	10920	10920	11640
21:30	12120	12960	12480	14280	13680	12240	11040	11520	12360	12720	12240	11520	11160	10800	11520
21:45	12000	12600	12480	13920	13320	12120	11160	11400	12240	12360	11880	11520	11040	10560	11400
22:00	11520	12240	12120	13920	13320	12120	10800	10920	12120	12240	11760	11280	10800	10680	11280
22:15	11400	12240	11880	13680	12960	12000	10920	10800	12000	12240	11520	11400	10800	10320	11040
22:30	11280	12120	11760	13680	13080	11760	10800	10800	11640	11760	11280	11280	10680	9960	10800
22:45	10920	11880	11400	13320	12840	11520	10560	10560	11640	11640	11040	10920	10440	9720	10680
23:00	10800	11520	11280	13080	12600	11520	10680	10200	11280	11760	10920	10920	10440	9720	10440
23:15	10680	11400	11160	12960	12480	11400	10200	10320	11160	11280	10560	10680	10320	9600	10320
23:30	10560	11280	10920	12600	12360	11280	10440	10080	10920	11160	10800	10680	10080	9600	10200
23:45	10200	11040	10920	12840	12120	11040	10200	10080	10680	11040	10560	10440	9840	9480	10080
24:00	10200	11040	10680	12360	12000	11040	10080	9840	10680	10920	10440	10200	9840	9360	9960
PAGE TOT	173190	178560	176910	189870	191700	151930	134970	135780	172530	179430	177450	160530	137100	127110	153540
DAY TOT	314640	333090	342510	355470	369750	295800	259770	255600	325260	341520	340050	310890	259500	241350	300030

TGL310 *** THE LODESTAR BILLING INTERFACE (REL. 1.01) ***

NOVEMBER 1995 — DEMAND BILLING - ELECTRIC — DATE: 11/09
BILLING-ID: 1100 — DEMANDS AS TRANSLATED AND TOTALED — PAGE: 3
TRANS PERIOD FROM: 10/02 TO: 10/31
BILLING GROUP: W — NAME: USA ABERDEEN PROVING GROUND — SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6960 — CITY: ABERDEEN STATE: MD ZIP: 21005
TARIFF SCHEDULE: P

1/4 HOUR ENDING	10/17	10/18	10/19	10/20	10/21	10/22	10/23	10/24	10/25	10/26	10/27	10/28	10/29		10/3
00:15	9960	9960	9840	9960	10200	9240	9720	9840	10200	10200	10320	10320	10200		1032
00:30	9960	10080	9840	9840	10320	9120	9720	9840	9840	10080	10200	10200	10200		1056
00:45	9840	9720	9720	9720	10080	9000	9720	9720	9960	9960	10320	10080	9960		1044
01:00	9960	9960	9600	9840	10200	8880	9360	9480	9720	9960	10080	10080	9960		1032
01:15	9840	9840	9360	9720	10200	9000	9480	9720	9720	9960	10200	9960	9840	9600	1032
01:30	9840	9840	9600	9600	10080	8880	9600	9480	9600	9960	10080	9960	9720	9480	1056
01:45	9720	9960	9600	9600	9960	9000	9360	9480	9720	9960	10200	10080	9600	9600	1032
02:00	9960	9600	9600	9480	10080	8640	9240	9480	9600	9840	10080	9840	9600	9600	1020
02:15	9720	9960	9720	9720	10200	8880	9480	9720	9480	10080	9960	9960		9600	1044
02:30	9960	9720	9720	9480	9960	8880	9240	9480	9480	9960	10200	9840		9480	1032
02:45	9960	9720	9720	9480	9960	8760	9360	9600	9600	9960	10080	10080		9600	1032
03:00	9840	9840	9600	9480	9960	8880	9600	9600	9360	10080	10200	9840		9600	1044
03:15	9720	9960	9720	9600	9960	8880	9360	9600	9600	9960	10080	9840		9480	1032
03:30	10080	9960	9600	9600	10080	8760	9480	9600	9480	10080	10320	9960		9600	1032
03:45	9840	9840	9960	9480	9840	8760	9360	9720	9600	9960	10320	9840		9600	1044
04:00	10080	10200	9840	9720	9960	8760	9600	9720	9600	10200	10320	9960		9600	1056
04:15	9960	10200	10080	9600	10080	8880	9480	9960	9720	10200	10440	9960		9600	1068
04:30	10320	10320	10320	9840	9840	8880	10080	10200	9840	10560	10440	9720		9720	1068
04:45	10320	10560	10440	9960	9960	8880	9960	9960	9960	10440	10440	9960		9480	1092
05:00	10560	10560	10560	10200	10080	8760	10080	10200	9960	10800	10440	9720		9720	1068
05:15	10800	10800	10800	10440	9960	8880	10440	10440	10080	10920	10560	10080		9720	1116
05:30	11160	10920	11040	10680	9720	8880	10560	10680	10440	11280	10920	9960		9840	1140
05:45	11400	11280	11400	10800	9600	8880	10800	10920	10560	11520	11160	9960		9600	1152
06:00	11760	11760	11640	11160	9720	9120	11280	11160	10680	11760	11280	10080		9840	1200
06:15	12240	12360	12240	11520	9720	8880	11880	11520	11280	12360	11880	10080		9960	1284
06:30	12720	12960	13080	12120	9960	9000	12360	12240	11760	12960	12120	10320		9720	1272
06:45	13320	13320	13680	12720	10080	9240	13200	13200	12480	13920	12360	10440		9720	1404
07:00	14280	14400	14400	13560	10200	9240	14160	13920	13320	14520	13080	10560		9840	1440
07:15	14760	15240	14760	14280	9960	9360	14880	14640	14160	15600	13680	10680		9840	1512
07:30	15480	15480	15360	15000	10200	9240	15240	15360	14760	15840	14040	10920		10080	1560
07:45	15600	15960	15480	15000	10320	9480	15840	15480	15120	16320	14280	10920		10200	1608
08:00	16200	16440	16080	15480	10440	9480	16320	15840	15720	16560	14760	10680		10440	1620
08:15	16440	16680	16080	15720	10560	9600	16680	15960	15720	16800	14880	10920		10560	1668
08:30	16560	16680	15840	15720	10680	9600	16560	15960	15960	16920	15000	11040		10680	1656
08:45	16320	16800	16200	15720	10800	9720	16560	16200	15720	16920	15120	11160		11160	1668
09:00	16440	16680	15960	15840	10800	9840	16680	16200	15840	16800	15240	11160		11160	1668
09:15	16680	16560	15960	15960	10920	10080	16680	16320	15720	16560	15240	11400		11160	1668
09:30	16680	16560	15960	16200	11040	10080	16680	16440	16080	16560	15360	11280		11400	1680
09:45	16800	16320	15840	15960	11280	10200	16680	16320	15960	16560	15360	11520		11280	1680
10:00	16560	16320	15960	16440	11400	10200	16440	16680	15960	16440	15360	11640		11160	1680
10:15	16800	16320	16080	16200	11400	10200	16560	16560	16080	16440	15600	11760		11280	1668
10:30	16560	16440	16080	16440	11040	10320	16560	16680	15960	16440	15480	11760		11280	1656
10:45	16560	16320	16080	16320	10680	10080	16440	16680	16080	16320	15720	11880		11400	1632
11:00	16560	16320	16320	16440	10800	10080	16320	16680	16080	16200	15720	12000		11280	1632
11:15	16320	16200	16200	16320	10920	9960	16320	16560	16200	16320	15480	12000		11280	1632
11:30	16080	15960	15600	15960	10680	10080	16080	16440	15960	15720	15240	12120		10920	1620
11:45	16080	15720	15600	15960	11160	10080	16200	16320	15840	15840	15240	11880		11160	1584
12:00	15960	15960	15840	15960	11160	10200	16080	16440	15960	15720	15240	12120		11040	1596
PAGE TOT	155640	155640	153000	150960	124050	111930	152940	153060	149880	157080	150030	127380		132360	1590

[redacted] DE[redacted] BI[redacted]G [redacted]ECT [redacted]E: [redacted]09/

BILLING-ID: [redacted] DEMANDS AS TRANS[redacted]ED AND TOTALED [redacted]GE: 4

TRANS PERIOD FROM: 10/02 TO: 10/31

BILLING GROUP: W NAME: USA ABERDEEN PROVING GROUND SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA

ROUTE: 9726 FOLIO: 6940 CITY: ABERDEEN STATE: MD ZIP: 21005

TARIFF SCHEDULE: P

1/4 HOUR ENDING	10/17	10/18	10/19	10/20	10/21	10/22	10/23	10/24	10/25	10/26	10/27	10/28	10/29	10/30
12:15	15600	15720	15600	16080	11040	10200	16080	16320	15720	15720	15000	11760	11160	15600
12:30	15360	15960	15840	15960	10920	9960	16080	16200	15960	15600	15000	11880	11160	15720
12:45	15480	15600	15960	15840	10680	9960	15960	16200	15600	15600	15120	11760	11160	15720
13:00	15840	16080	16080	16080	10440	10080	16320	16320	15840	15600	15120	11640	11040	15840
13:15	15960	16080	16200	16080	10440	9840	16080	16560	15720	15840	15480	11640	11040	15840
13:30	15720	16200	16200	16200	10200	9840	16200	16680	15840	15720	15120	11640	10800	15840
13:45	15960	15960	16440	16200	10080	9840	16320	16560	15720	15720	15360	11520	10920	15720
14:00	15840	16080	16320	16080	9960	9600	16080	16560	15720	15600	15120	11520	10800	15840
14:15	15720	15720	16200	16080	9840	9720	16320	16560	15720	15480	15120	11280	10920	15840
14:30	15720	15960	16200	15960	10200	9480	15960	16320	15720	15240	14880	11400	10800	15480
14:45	15720	15840	16320	15960	10200	9600	16200	16440	15600	15240	15000	11160	10680	15600
15:00	15720	15720	16320	15720	10200	9720	16320	16440	15720	15480	14880	11040	10680	15600
15:15	15480	15720	16080	15480	9960	9600	16200	16320	15600	15360	14640	11040	10800	15360
15:30	15480	15600	15960	15120	10080	9480	15960	16440	15600	15120	14520	10920	10800	15120
15:45	15240	15480	15720	14640	9720	9480	15720	16080	15480	15000	14160	11040	10680	15000
16:00	15000	15120	15480	14040	9960	9600	15720	15840	15000	14640	13680	10800	10920	14640
16:15	14520	14520	15000	13680	9840	9600	15120	15480	14520	13920	13440	10800	10920	14280
16:30	13800	13680	14280	13200	9840	9360	14160	14280	13680	13560	12840	10920	10680	13200
16:45	12840	12960	13440	12600	9840	9600	13200	13440	12840	12960	12360	10800	10920	12480
17:00	12480	12480	12960	12120	9720	9480	12480	13080	12360	12600	12120	10920	11160	12360
17:15	12480	12120	12720	12120	9720	9600	12360	12600	12000	12240	12120	11040	11280	12240
17:30	12000	11880	12600	12000	9480	9720	12240	12480	11880	12120	11760	10800	11640	12600
17:45	12120	11760	12240	11880	9840	9840	11880	12360	11760	12000	11880	10680	12120	13080
18:00	12000	11640	12360	11880	9720	9840	12000	12120	11640	12000	11880	10920	12000	12960
18:15	11880	11520	12360	12120	9840	9840	11880	12120	11640	12120	12120	10920	12120	13200
18:30	12120	11640	12120	12000	9960	10200	11880	12360	12000	12120	12000	11160	12120	13080
18:45	12360	12120	12240	12360	10200	10440	12240	12360	12240	12600	12480	11520	12000	13200
19:00	12600	12120	12600	12360	10440	11040	12360	12840	12240	12360	12120	11400	12000	12960
19:15	12360	12360	12480	12240	10440	10920	12600	12480	12360	12480	12120	11520	12120	13080
19:30	12480	12120	12480	12120	10320	10920	12240	12480	12240	12480	11880	11280	12120	12960
19:45	12360	12360	12480	12120	10440	11160	12360	12840	12240	12600	11880	11280	11880	12840
20:00	12240	12240	12480	11880	10560	10920	12240	12480	12360	12240	11760	11400	12000	12840
20:15	12000	12240	12240	12000	10440	11040	12240	12360	12480	12120	11880	11280	12000	12600
20:30	12120	11880	12000	12120	10200	10920	12000	12000	12240	11880	11760	11160	11760	12600
20:45	12000	12000	11760	11760	10440	11040	11880	12000	12240	11880	11520	11280	11880	12600
21:00	11760	11520	11760	11640	10320	10920	11760	11760	12000	11880	11160	11040	11760	12360
21:15	11760	11640	11520	11640	10320	10680	11640	11640	11880	11640	11400	11280	11760	12360
21:30	11640	11520	11520	11520	10200	10680	11520	11400	11640	11640	11160	11040	11880	12240
21:45	11400	11280	11280	11400	10200	10440	11280	11520	11640	11520	11280	10920	11520	12000
22:00	11040	11160	11160	11400	10080	10440	11160	11280	11280	11400	10920	10920	11400	11880
22:15	11040	10920	11160	11280	10080	10320	11160	11160	11160	11160	11040	10800	11280	11640
22:30	10680	10920	11040	11280	9840	10440	10920	11040	11040	11160	11040	10800	10920	11640
22:45	10680	10680	10680	11040	9960	10320	10800	10800	10800	10800	10920	10680	11040	11400
23:00	10560	10440	10320	10800	9720	10080	10440	10800	10680	10800	10800	10560	10920	11160
23:15	10320	10320	10320	11040	9600	9960	10440	10440	10560	10560	10800	10560	10680	11160
23:30	10200	10080	10080	10560	9600	9960	10200	10440	10440	10560	10440	10560	10560	11040
23:45	10080	10200	10200	10680	9480	9840	10080	10320	10320	10440	10560	10320	10680	10680
24:00	9960	9840	9840	10560	9360	9720	10080	10200	10200	10320	10320	10200	10680	10800
PAGE TOT	156930	156750	159660	157230	120990	121320	159090	161700	157290	156780	152490	133200	135540	161070
DAY TOT	312570	312390	312660	308190	245040	233250	312030	314760	307170	313860	302520	260580	267900	320100

NOVEMBER 1995 — DEMAND BILLING - ELECTRIC — DATE: 11/09/
BILLING-ID: 1100 — DEMANDS AS TRANSLATED AND TOTALED — PAGE: 5
TRANS PERIOD FROM: 10/02 TO: 10/31
BILLING GROUP: W — NAME: USA ABERDEEN PROVING GROUND — SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6940 — CITY: ABERDEEN — STATE: MD ZIP: 21005
TARIFF SCHEDULE: P

1/4 HOUR ENDING	10/31
00:15	10920
00:30	10560
00:45	10680
01:00	10560
01:15	10440
01:30	
01:45	
02:00	
02:15	
02:30	
02:45	
03:00	
03:15	
03:30	
03:45	
04:00	
04:15	
04:30	
04:45	
05:00	
05:15	
05:30	
05:45	
06:00	
06:15	
06:30	
06:45	
07:00	
07:15	
07:30	
07:45	
08:00	
08:15	
08:30	
08:45	
09:00	
09:15	
09:30	
09:45	
10:00	
10:15	
10:30	
10:45	
11:00	
11:15	
11:30	
11:45	
12:00	
PAGE TOT	13290

NOVEMBER 95 — DEMAND BILLING - ELECTRIC — DATE: 11/09/
BILLING-ID: 1100 — DEMANDS AS TRANSLATED AND TOTALED — PAGE: 6
TRANS PERIOD FROM: 10/02 TO: 10/31
BILLING GROUP: W — NAME: USA ABERDEEN PROVING GROUND — SERVICE ADDR: 5600 MARYLAND BLVD *SECT AA
ROUTE: 9726 FOLIO: 6940
TARIFF SCHEDULE: P — CITY: ABERDEEN — STATE: MD ZIP: 21005

1/4 HOUR ENDING	10/31
12:15	
12:30	
12:45	
13:00	
13:15	
13:30	
13:45	
14:00	
14:15	
14:30	
14:45	
15:00	
15:15	
15:30	
15:45	
16:00	
16:15	
16:30	
16:45	
17:00	
17:15	
17:30	
17:45	
18:00	
18:15	
18:30	
18:45	
19:00	
19:15	
19:30	
19:45	
20:00	
20:15	
20:30	
20:45	
21:00	
21:15	
21:30	
21:45	
22:00	
22:15	
22:30	
22:45	
23:00	
23:15	
23:30	
23:45	
24:00	
PAGE TOT	0
DAY TOT	13290

ATTACHMENT 8.5
METERING DATA

Aberdeen Proving Grounds

Substation #	2A				2B			15	24	36	
Feeder #	2	4	6	7	1	2	4				1
BUILDING'S SERVED											
Building #'s											Pole #45
TEST TIME & DATE											
Date	10/20/95		10/17/95	10/17/95	10/17/95	10/20/95		10/17/95	10/18/95	10/17/95	10/18/95
Time Test Started	09:55 AM		11:02 AM	11:32 AM	01:01 PM	10:12 AM		01:10 PM	11:18 AM	01:45 PM	09:48 AM
Time Test Ended	10:00 AM		09:00 AM	09:02 AM	09:00 AM	10:00 AM		09:37 AM	10:30 PM	11:30 AM	11:55 AM
TEMPERATURES											
High Temperature	71		63	63	63	71		63	73	63	75
Low Temperature	49		42	42	42	49		42	47	42	54
Relative Humidity (RH)	100%		58%	58%	58%	100%		58%	61%	58%	68%
ELECTRIC USAGE											
On-Peak kWh	3,398		737	239	104	871		1,225	80	1,228	4,342
Interm kWh	1,746		963	336	177	627		808	84	929	1,570
Off-Peak kWh	2,222		936	325	86	1,020		1,871	83	559	1,834
Total kWh	7,366		2,636	900	367	2,518		3,904	247	2,716	7,746
DEMAND READINGS											
12:00 AM (Midnight)	221		88	33	6	103		173	8	49	181
12:30 AM	209		90	31	4	100		178	8	46	180
01:00 AM	210		90	31	8	102		175	8	45	176
01:30 AM	212		90	31	8	101		183	8	53	179
02:00 AM	207		92	31	6	101		187	8	46	178
02:30 AM	208		91	31	6	103		190	8	43	177
03:00 AM	213		89	31	6	102		193	8	52	179
03:30 AM	212		90	30	7	101		190	8	50	180
04:00 AM	214		89	30	7	102		190	8	43	177
04:30 AM	213		90	34	9	100		175	8	53	182
05:00 AM	211		90	31	10	95		186	8	46	184
05:30 AM	205		90	30	12	92		186	8	55	188
06:00 AM	205		100	29	15	93		195	8	72	190
06:30 AM	208		116	33	17	94		198	8	85	216
07:00 AM	214		144	35	18	99		193	12	194	240
07:30 AM	216		157	40	24	96		164	12	316	251
08:00 AM	233		159	40	33	102		165	13	375	256
08:30 AM	236		163	43	37	109		167	14	382	258
09:00 AM	240		165	45	39	108		172	13	380	269
09:30 AM	249		*166*	*46*	*40*	109		194	13	381	267
10:00 AM	250		*168*	*47*	*41*	103		*195*	*14*	*385*	265
10:30 AM	304		*170*	*48*	*42*	104		*196*	*14*	*390*	265
11:00 AM	309		*172*	*49*	*39*	138		*197*	15	*385*	260
11:30 AM	304		172	*50*	*38*	130		*198*	15	*375*	264
12:00 PM	315		174	52	*37*	131		*199*	15	*370*	270
12:30 PM	297		171	52	*36*	141		*200*	16	*365*	266
01:00 PM	282		173	52	35	139		*201*	16	*360*	268
01:30 PM	298		171	93	38	137		203	16	*350*	264
02:00 PM	293		165	52	39	132		202	15	341	261
02:30 PM	297		160	51	39	131		205	14	326	262
03:00 PM	299		162	51	43	124		218	14	325	265
03:30 PM	299		158	48	47	121		213	13	341	262
04:00 PM	277		154	49	48	117		212	13	328	240
04:30 PM	246		132	45	40	114		208	13	140	223
05:00 PM	249		101	41	32	114		204	12	68	209
05:30 PM	242		100	40	24	119		199	12	59	184
06:00 PM	228		99	38	18	120		194	11	71	183
06:30 PM	248		98	40	15	112		202	8	67	186
07:00 PM	249		97	36	5	108		206	8	68	185
07:30 PM	263		94	37	17	113		193	8	55	187
08:00 PM	278		99	37	9	115		195	8	51	187
08:30 PM	279		98	37	11	114		190	8	43	181
09:00 PM	279		96	37	12	114		192	8	49	181
09:30 PM	275		97	36	10	115		190	8	48	183
10:00 PM	257		97	36	11	109		189	8	42	182
10:30 PM	262		97	36	8	108		191	8	49	183
11:00 PM	245		97	36	8	106		195	*8*	47	184
11:30 PM	259		93	35	7	107		182	*8*	44	*183*
TOTAL DEMAND	12,019		5,912	1,945	1,060	5,346		9,220	520	8,307	10,340

Aberdeen Proving Grounds

Substation #	1		8	12		13		26	33	33	
Feeder #	2	3			1	2	3		1200A	3000 A	1
BUILDING'S SERVED											
Building #'s	Pole #47	Pole #44			#3984				#5014	#5014	#449A
TEST TIME & DATE											
Date	10/17/95	10/18/95	10/18/95	10/18/95	10/24/95			10/19/95	10/18/95	10/18/95	10/19/95
Time Test Started	09:58 AM	10:01 AM	11:01 AM	10:26 AM	11:12 AM			01:44 PM	11:22 AM	12:06 PM	10:40 AM
Time Test Ended	08:30 AM	09:00 AM	09:58 AM	09:52 AM	09:00 AM			12:30 PM	10:50 AM	11:06 AM	09:08 AM
TEMPERATURES											
High Temperature	75	75	73	73	74			73	75	75	73
Low Temperature	54	54	47	47	48			56	54	54	56
Relative Humidity (RH)	68%	68%	61%	61%	58%			72%	68%	68%	72%
ELECTRIC USAGE											
On-Peak kWh	11,003	39,800	529	3,117	943			362	556	990	845
Interm kWh	13,407	10,920	524	2,370	916			326	580	841	916
Off-Peak kWh	5,750	12,950	602	1,996	1,310			313	20	675	860
Total kWh	30,160	63,670	1,655	7,483	3,169			1,001	1,156	2,506	2,621
DEMAND READINGS											
12:00 AM (Midnight)	558	1,275	60	195	132			31	0	63	85
12:30 AM	549	1,281	60	193	137			31	0	62	80
01:00 AM	555	1,128	60	194	133			31	0	66	92
01:30 AM	557	1,279	60	195	132			31	0	64	84
02:00 AM	549	1,276	60	192	133			30	0	65	87
02:30 AM	555	1,281	60	194	134			30	0	65	81
03:00 AM	547	1,281	59	193	130			30	0	61	88
03:30 AM	541	1,280	59	193	129			31	0	69	86
04:00 AM	539	1,277	60	191	132			31	0	62	86
04:30 AM	545	1,313	60	193	130			33	0	63	85
05:00 AM	551	1,317	59	193	128			32	0	74	81
05:30 AM	557	1,348	59	194	128			31	0	69	89
06:00 AM	619	1,407	63	199	129			32	0	76	85
06:30 AM	670	1,501	70	252	135			40	16	105	113
07:00 AM	694	1,624	72	323	138			64	61	129	148
07:30 AM	690	1,697	78	353	153			33	94	179	187
08:00 AM	688	1,758	83	385	152			62	161	197	185
08:30 AM	728	1,791	83	420	155			58	161	186	187
09:00 AM	*741*	1,796	83	421	159			58	159	195	197
09:30 AM	754	*1,775*	82	405	*162*			59	82	170	*187*
10:00 AM	759	1,753	*85*	*414*	*160*			61	141	206	*178*
10:30 AM	741	1,810	*88*	422	*158*			49	160	209	169
11:00 AM	754	1,828	91	411	158			45	*166*	205	189
11:30 AM	757	1,815	90	410	157			44	*80*	*162*	180
12:00 PM	790	1,814	91	410	158			45	12	119	176
12:30 PM	824	1,833	91	405	160			52	13	171	175
01:00 PM	824	1,869	90	442	158			*60*	46	196	171
01:30 PM	791	1,880	90	405	160			67	166	184	159
02:00 PM	798	1,868	88	396	161			68	168	180	144
02:30 PM	769	1,867	89	390	161			68	157	188	150
03:00 PM	762	1,871	88	390	160			69	154	189	139
03:30 PM	737	1,838	82	381	159			67	168	173	129
04:00 PM	658	1,750	78	401	155			55	167	115	111
04:30 PM	659	1,566	74	326	135			41	86	74	102
05:00 PM	645	1,437	69	278	112			29	21	72	108
05:30 PM	631	1,364	66	238	115			33	2	61	111
06:00 PM	641	1,322	65	224	117			33	0	71	93
06:30 PM	637	1,329	64	206	119			33	0	75	108
07:00 PM	631	1,305	62	204	123			31	0	72	95
07:30 PM	604	1,304	60	201	124			31	0	63	95
08:00 PM	592	1,306	60	199	125			30	0	64	91
08:30 PM	591	1,295	60	194	125			30	0	64	83
09:00 PM	610	1,283	59	193	126			30	0	64	85
09:30 PM	604	1,272	60	194	128			31	0	63	82
10:00 PM	609	1,284	60	193	131			31	0	71	86
10:30 PM	612	1,271	60	196	132			31	0	63	83
11:00 PM	588	1,272	60	201	135			33	0	64	85
11:30 PM	578	1,283	60	211	132			33	0	71	83
TOTAL DEMAND	31,383	72,374	3,408	13,612	6,700			2,006		5,328	5,770

Aberdeen Proving Grounds

Substation #	3			7			19	27	30			
Feeder #	2	3	4	1	2	3					1	2
BUILDING'S SERVED												
Building #'s		#449A	#449A	Blast Sph.	#1112	East Leg						
TEST TIME & DATE												
Date		10/19/95	10/19/95	10/18/95	10/18/95	10/18/95	10/20/95	10/19/95	10/19/95	10/25/95	10/23/95	
Time Test Started		10:44 AM	10:52 AM	09:28 AM	09:21 AM	09:24 AM	11:00 AM	01:09 PM	02:44 PM	10:28 AM	11:58 AM	
Time Test Ended		09:13 AM	09:11 AM	09:15 AM	09:16 AM	09:18 AM	10:25 AM	10:30 AM	08:30 AM	08:30 AM	09:00 AM	
TEMPERATURES												
High Temperature		73	73	75	75	75	75	73	73	67	77	
Low Temperature		56	56	54	54	55	54	56	56	44	55	
Relative Humidity (RH)		72%	72%	68%	68%	68%	68%	72%	72%	62%	61%	
ELECTRIC USAGE												
On-Peak kWh		379	2,798	169	958	258	1,036	462	120	269	617	
Interm kWh		424	3,335	32	274	110	1,081	246	53	273	748	
Off-Peak kWh		460	3,987	75	313	141	1,173	592	149	358	473	
Total kWh		1,263	10,120	276	1,545	509	3,290	1,300	322	900	1,838	
DEMAND READINGS												
12:00 AM (Midnight)		46	384	7	31	14	117	59	15	35	47	
12:30 AM		44	391	8	30	14	120	59	15	24	45	
01:00 AM		43	395	7	31	14	115	60	15	24	49	
01:30 AM		43	401	8	30	14	118	59	14	25	48	
02:00 AM		44	397	8	32	14	116	59	15	37	46	
02:30 AM		45	390	8	32	14	111	60	15	44	45	
03:00 AM		44	398	8	32	14	116	60	15	45	48	
03:30 AM		45	404	9	32	14	116	58	15	45	49	
04:00 AM		44	409	7	30	14	118	59	15	45	47	
04:30 AM		42	409	9	31	14	115	60	15	45	46	
05:00 AM		58	416	8	31	14	119	59	14	44	48	
05:30 AM		51	413	9	31	15	115	59	15	29	48	
06:00 AM		51	407	7	32	15	120	60	15	29	48	
06:30 AM		67	435	8	39	17	122	59	17	30	56	
07:00 AM		78	490	8	46	17	138	58	19	30	67	
07:30 AM		76	511	8	47	18	149	54	21	29	155	
08:00 AM		77	508	7	46	16	162	57	26	26	194	
08:30 AM		80	524	6	48	20	175	61	29	24	200	
09:00 AM		80	544	6	44	19	179	57	*31*	*31*		234
09:30 AM		*79*	*525*	6	45	26	182	58	*33*	*34*	*219*	
10:00 AM		*79*	*500*	6	47	19	184	57	*36*	*38*	*205*	
10:30 AM		77	475	6	48	19	*184*	60	*39*	38	*191*	
11:00 AM		79	531	5	46	28	184	*62*	*41*	37	*177*	
11:30 AM		76	548	6	45	21	180	*65*	*37*	49	*163*	
12:00 PM		73	565	5	45	18	185	*67*	*35*	54	149	
12:30 PM		72	561	5	47	18	181	*69*	*33*	48	152	
01:00 PM		70	556	6	44	18	184	69	*31*	46	162	
01:30 PM		70	578	6	47	18	184	69	*29*	52	183	
02:00 PM		70	579	5	51	18	179	65	*27*	53	160	
02:30 PM		69	583	5	50	18	182	68	25	48	165	
03:00 PM		69	583	5	47	17	180	68	26	44	171	
03:30 PM		69	576	5	44	15	178	61	25	37	165	
04:00 PM		64	537	5	39	15	167	53	19	35	131	
04:30 PM		56	484	4	37	14	155	50	18	43	55	
05:00 PM		46	436	4	36	14	100	51	17	43	45	
05:30 PM		44	408	4	32	13	88	59	16	50	45	
06:00 PM		45	400	4	30	13	83	57	15	44	44	
06:30 PM		46	387	5	31	14	84	59	16	39	47	
07:00 PM		47	390	5	32	14	83	59	15	45	47	
07:30 PM		47	397	7	31	14	80	60	16	48	49	
08:00 PM		47	388	6	31	14	82	59	14	57	46	
08:30 PM		46	391	7	32	14	79	59	16	56	49	
09:00 PM		47	395	6	31	14	103	59	14	49	46	
09:30 PM		46	383	7	31	14	119	59	17	40	44	
10:00 PM		47	386	7	31	14	120	60	14	38	47	
10:30 PM		45	382	6	31	14	118	59	15	36	45	
11:00 PM		45	381	8	31	14	118	58	15	30	48	
11:30 PM		44	378	7	31	14	118	60	16	27	46	
TOTAL DEMAND		2,770	21,905	309	1,800	766	6,505	2,876	1,006	1,898	4,615	

Aberdeen Proving Grounds

Substation #	4				10	14	22	23	6		
Feeder #	3	4	5	6					1	2	1
BUILDING'S SERVED											
Building #'s											
TEST TIME & DATE											
Date	10/23/95	10/23/905	10/23/95	10/23/95		10/19/95		10/23/95			10/20/95
Time Test Started	12:03 PM	12:15 PM	12:19 PM	12:10 PM		02:05 PM		10:11 AM			01:04 PM
Time Test Ended	08:30 AM	08:30 AM	08:30 AM	09:00 AM		10:00 AM		10:30 AM			01:00 PM
TEMPERATURES											
High Temperature	77	77	77	77		73		77			71
Low Temperature	55	55	55	55		56		55			49
Relative Humidity (RH)	61%	61%	61%	61%		72%		61%			100%
ELECTRIC USAGE											
On-Peak kWh	3,027	1,273	4,887	3,563		2,938		691			2,008
Interm kWh	2,735	1,308	3,247	4,893		1,616		731			1,439
Off-Peak kWh	3,511	1,689	4,770	7,024		2,603		511			2,298
Total kWh	9,273	4,270	12,904	15,480		7,157		1,932			5,745
DEMAND READINGS											
12:00 AM (Midnight)	347	170	438	650		305		51			227
12:30 AM	319	165	436	630		295		51			226
01:00 AM	318	166	429	629		268		51			224
01:30 AM	314	167	434	612		267		51			231
02:00 AM	317	169	445	622		270		52			227
02:30 AM	323	167	436	605		270		51			224
03:00 AM	314	166	440	611		264		51			229
03:30 AM	316	165	464	619		212		51			224
04:00 AM	316	169	481	631		197		50			230
04:30 AM	320	163	537	694		203		51			230
05:00 AM	333	168	541	738		211		51			230
05:30 AM	366	170	573	789		218		50			217
06:00 AM	411	176	590	848		218		51			218
06:30 AM	485	216	664	937		262		53			215
07:00 AM	546	251	683	957		375		88			228
07:30 AM	583	275	690	966		465		99			229
08:00 AM	586	290	705	963		475		107			237
08:30 AM	591	289	697	1,010		501		112			248
09:00 AM	*593*	*290*	*700*	1,040		501		126			254
09:30 AM	*597*	*295*	*710*	*1,050*		505		126			261
10:00 AM	*600*	*300*	*720*	*1,060*		531		123			244
10:30 AM	*597*	*305*	*730*	*1,050*		*550*		127			248
11:00 AM	*595*	*310*	*740*	*1,040*		*570*		111			246
11:30 AM	*593*	*305*	*730*	*1,030*		*590*		107			256
12:00 PM	593	*300*	*725*	1,032		*665*		106			250
12:30 PM	586	285	722	1,015		*670*		119			243
01:00 PM	593	300	707	1,008		*665*		120			431
01:30 PM	594	299	713	1,032		*660*		110			438
02:00 PM	589	297	702	1,023		656		111			428
02:30 PM	594	300	721	1,024		631		113			405
03:00 PM	563	280	720	1,026		632		114			387
03:30 PM	532	250	703	1,025		571		107			351
04:00 PM	456	217	672	987		443		78			329
04:30 PM	438	180	628	905		282		46			272
05:00 PM	382	156	592	890		284		44			248
05:30 PM	384	152	572	857		265		45			247
06:00 PM	396	160	568	848		275		46			250
06:30 PM	408	147	601	909		294		50			258
07:00 PM	418	152	595	937		283		51			263
07:30 PM	403	154	590	934		283		51			269
08:00 PM	413	162	590	878		275		51			266
08:30 PM	416	157	553	866		279		51			269
09:00 PM	427	164	525	835		283		51			254
09:30 PM	395	166	508	784		283		51			246
10:00 PM	371	169	459	748		305		51			239
10:30 PM	357	171	445	726		309		51			236
11:00 PM	357	170	445	706		290		51			237
11:30 PM	347	167	436	673		*280*		51			229
TOTAL DEMAND	21,689	10,261	28,500	41,445		18,384		3,560			12,646

Aberdeen Proving Grounds

Substation #	9		20	25		31				5	
Feeder #	2	3		1	2	1	2	1	2	3	4
BUILDING'S SERVED											
Building #'s											
TEST TIME & DATE											
Date		10/20/95	10/20/95	10/20/95	10/20/95	10/20/95	10/20/95			10/23/95	10/24/95
Time Test Started		01:12 PM	10:33 AM	02:03 PM	02:12 PM	02:46 PM	02:50 PM			11:44 AM	11:10 AM
Time Test Ended		01:00 PM	10:30 AM	02:00 PM	02:06 PM	10:00 AM	03:00 PM			09:37 AM	08:10 AM
TEMPERATURES											
High Temperature		71	71	71	71	71	71			74	74
Low Temperature		49	49	49	49	49	49			48	48
Relative Humidity (RH)		100%	100%	100%	100%	100%	100%			58%	58%
ELECTRIC USAGE											
On-Peak kWh		3,446	479	1,581	1,534	12,714	1,070			3,646	2,181
Interm kWh		2,301	371	1,304	1,453	1,838	748			3,265	4,403
Off-Peak kWh		3,878	621	1,153	1,125	5,548	1,425			4,869	4,715
Total kWh		9,625	1,471	4,038	4,112	20,100	3,243			11,780	11,299
DEMAND READINGS											
12:00 AM (Midnight)		368	63	109	110	559	143			476	456
12:30 AM		369	63	103	105	526	142			455	459
01:00 AM		366	63	94	89	513	137			465	462
01:30 AM		367	63	90	82	464	135			463	470
02:00 AM		389	63	86	86	414	131			485	468
02:30 AM		384	63	89	87	422	138			486	476
03:00 AM		384	63	83	84	400	137			473	476
03:30 AM		398	63	83	82	396	143			476	478
04:00 AM		393	63	86	76	365	143			503	479
04:30 AM		386	63	81	90	381	155			487	482
05:00 AM		381	61	87	86	397	157			482	486
05:30 AM		390	57	92	99	400	156			462	498
06:00 AM		403	56	92	95	418	136			491	475
06:30 AM		389	56	99	109	497	140			537	582
07:00 AM		401	56	132	137	527	134			570	641
07:30 AM		386	57	140	140	573	133			589	657
08:00 AM		404	57	168	154	693	131			541	643
08:30 AM		386	56	164	184	756	131			563	*700*
09:00 AM		373	56	191	187	855	120			*560*	*750*
09:30 AM		406	57	200	234	986	121			*550*	*800*
10:00 AM		418	57	234	230	1,092	119			*550*	*860*
10:30 AM		407	58	255	232	*1,051*	121			*545*	*850*
11:00 AM		390	58	258	252	*1,009*	122			540	843
11:30 AM		386	60	257	288	*968*	125			546	813
12:00 PM		386	62	245	260	*927*	127			554	802
12:30 PM		395	62	239	230	*885*	134			529	782
01:00 PM		622	62	224	257	*844*	129			591	781
01:30 PM		615	61	203	253	*802*	130			585	819
02:00 PM		601	64	123	101	*761*	119			547	821
02:30 PM		589	62	116	100	601	118			565	787
03:00 PM		588	63	126	126	720	185			553	741
03:30 PM		581	62	123	118	756	180			502	681
04:00 PM		539	62	155	150	799	160			504	619
04:30 PM		500	61	165	153	866	145			482	542
05:00 PM		480	62	212	180	910	138			484	480
05:30 PM		469	62	193	190	933	134			490	481
06:00 PM		488	63	204	211	964	143			493	471
06:30 PM		479	63	218	219	1,037	139			525	476
07:00 PM		470	63	221	205	993	141			515	470
07:30 PM		448	63	215	206	1,006	141			511	474
08:00 PM		440	63	212	205	1,033	157			509	470
08:30 PM		411	63	197	196	957	147			517	469
09:00 PM		410	63	194	174	971	153			517	473
09:30 PM		412	63	198	170	916	143			501	465
10:00 PM		409	64	202	171	865	143			505	467
10:30 PM		396	64	170	153	807	147			496	459
11:00 PM		386	63	143	151	699	145			510	464
11:30 PM		370	63	130	132	666	143			477	461
TOTAL DEMAND		20,803	2,939	7,700	7,628	35,380	6,688			24,755	28,257

Aberdeen Proving Grounds

Substation #	11		21	28	29		
Feeder #	1	2			1	4	TOTALS
BUILDING'S SERVED							
Building #'s							
TEST TIME & DATE							
Date	10/23/95	10/23/95	10/23/95	10/24/95	10/23/95	10/23/95	
Time Test Started	01:22 PM	01:27 PM	09:51 AM	01:07 PM	03:21 PM	03:24 PM	
Time Test Ended	10:00 AM	09:30 AM	10:00 AM	08:00 AM	10:30 AM	10:30 AM	
TEMPERATURES							
High Temperature	77	77	77	74	73	73	
Low Temperature	55	55	55	48	56	56	
Relative Humidity (RH)	61%	61%	61%	58%	72%	72%	
ELECTRIC USAGE							
On-Peak kWh	192	578	59	173	2,219	1,475	127,170
Interm kWh	96	290	44	160	510	233	77,601
Off-Peak kWh	261	872	80	210	2,192	1,530	92,017
Total kWh	549	1,740	184	543	4,921	3,238	296,788
DEMAND READINGS							
12:00 AM (Midnight)	26	87	8	21	186	138	8,952
12:30 AM	25	90	8	20	177	138	8,792
01:00 AM	24	90	8	21	172	135	8,581
01:30 AM	23	90	8	21	169	134	8,683
02:00 AM	28	88	8	21	169	131	8,679
02:30 AM	25	88	8	21	176	132	8,689
03:00 AM	25	88	8	21	167	131	8,658
03:30 AM	27	88	8	21	167	134	8,658
04:00 AM	29	87	8	21	187	144	8,682
04:30 AM	25	87	8	21	271	157	8,963
05:00 AM	29	85	8	20	261	135	9,052
05:30 AM	25	86	8	19	304	142	9,243
06:00 AM	24	85	7	26	316	189	9,630
06:30 AM	27	85	7	46	348	174	10,654
07:00 AM	29	99	7	40	310	132	11,694
07:30 AM	28	85	7	41	279	128	12,358
08:00 AM	28	83	7	40	220	128	12,825
08:30 AM	28	85	9	*41*	228	125	13,246
09:00 AM	30	87	7	*42*	243	127	13,599
09:30 AM	28	90	7	*42*	266	129	13,806
10:00 AM	31	95	7	*42*	283	129	14,119
10:30 AM	*30*	100	7	*43*	276	126	14,183
11:00 AM	*28*	110	7	*43*	*278*	*129*	14,279
11:30 AM	*30*	100	7	*44*	*280*	*130*	14,078
12:00 PM	*28*	95	8	*44*	*282*	*125*	13,986
12:30 PM	*26*	90	8	*45*	*284*	*127*	13,930
01:00 PM	*22*	85	7	30	*288*	*125*	14,458
01:30 PM	18	80	7	45	*290*	*130*	14,592
02:00 PM	28	90	7	45	*288*	*127*	14,104
02:30 PM	26	89	7	46	*284*	*125*	13,834
03:00 PM	25	87	7	46	*284*	*125*	13,926
03:30 PM	26	86	8	45	286	125	13,528
04:00 PM	29	85	8	40	274	132	12,726
04:30 PM	30	58	8	22	308	157	11,384
05:00 PM	24	57	8	15	279	199	10,716
05:30 PM	23	57	8	15	303	231	10,470
06:00 PM	23	57	8	15	331	226	10,502
06:30 PM	24	76	8	19	314	239	10,782
07:00 PM	26	81	8	21	318	257	10,708
07:30 PM	29	85	8	21	298	264	10,650
08:00 PM	25	85	8	21	267	256	10,574
08:30 PM	25	84	8	21	264	247	10,348
09:00 PM	25	86	8	21	249	241	10,306
09:30 PM	28	85	8	21	237	209	10,041
10:00 PM	27	87	8	21	229	178	9,872
10:30 PM	25	88	8	21	197	158	9,624
11:00 PM	26	87	10	21	190	147	9,409
11:30 PM	29	87	8	20	184	139	9,201
TOTAL DEMAND	1,263	4,103	368	1,416	12,258	7,584	

ATTACHMENT 8.6
INCREMENTAL COST CALCULATION

Baltimore Gas & Electric Company, P (Primary Voltage Service) Electric Rate Analysis

Prepared by Entech Engineering, Inc.

Billing and Client Information

Client	Aberdeen Proving Grounds
Billing Year	1995
Billing Period	January
# of Billing Days	28
Enter "1" for Oct-May, 0 for Jun-Sept	1
Rates Schedule in Effect	Non-Summer

Demand and Usage Information

Supply Voltage	13,200
Demand Measurements	
Production & Transmission Demand (kW)	23,400
Distribution Demand (kW)	23,040
Usage Measurements	
On-Peak Period (kWh)	2,884,895
Intermediate Period (kWh)	2,271,744
Off-Peak Period (kWh)	5,480,361
Total (kWh)	10,637,000

Taxes and Special Adjustments

Fuel Rate Total Energy Charge	$0.01227
Electric Environment Surcharge	$1,000.00
Credits	
Transmission Line Contract 6/26/50	($731.00)
Rider #5 Air Conditioning Credit	$0.00

Baltimore Gas & Electric Company, P (Primary Voltage Service) Electric Rate Analysis

Prepared by Entech Engineering, Inc.

Duplicated Electric Bill

Customer Charge	1 Bill @	$750.00	Per Bill =	$750.00
On-Peak Usage Charge				
Base Rate Charge	2,884,895 kWh @	$0.02360	Per kWh =	$68,083.52
Intermediate Usage Charge				
Base Rate Charge	2,271,744 kWh @	$0.02140	Per kWh =	$48,615.32
Off-Peak Usage Charge				
Base Rate Charge	5,480,361 kWh @	$0.01277	Per kWh =	$69,984.21
Demand Charges				
Distribution Demand Charg	23,040 kW @	$2.33	Per kW =	$53,683.20
Prod & Trans Demand Char	23,400 kW @	$5.99	Per kW =	$140,166.00
Other Charges and Credits				
Fuel Rate Total Energy Charg	$0.01227 $/kWh x	$10,637,000	Subtotal =	$130,515.99
Electric Envir Surcharge		$1,000.00	Subtotal =	$1,000.00
Transmission Line Credit		($731.00)	Subtotal =	($731.00)
Rider #5 A/C Credit		$0.00	Subtotal =	$0.00
			CURRENT PERIOD CHARGES	$512,067.24

Calculated Incremental

Total Incremental Cost Per kW	$8.32
Incremental Cost Per On-Peak kWh	$0.03587
Incremental Cost Per Intermediate kWh	$0.03367
Incremental Cost Per Off-Peak kWh	$0.02504

Calculated Billing Statistics Based on Incremental Costs

Demand Cost	$194,688.00	Energy Cost	$317,199.04
% Demand	38.0%	% Energy	61.9%

Current Electric Tariff (Rate P)

	Summer	Non-Summer
Customer Charge ($/Bill)	$750.00	$750.00
Production & Transmission Demand Charge ($/kW)	$12.09	$5.99
Distribution Demand Charge ($/kW)	$2.33	$2.33
On-Peak Usage Charge ($/kWh)	$0.03893	$0.02360
Intermediate Usage Charge ($/kWh)	$0.02845	$0.02140
Off-Peak Usage Charge ($/kWh)	$0.01271	$0.01277

Baltimore Gas & Electric Company, P (Primary Voltage Service) Electric Rate Analysis

Prepared by Entech Engineering, Inc.

Electric Bill Calculation

Calculation Description	Actual Billing	Demand, kW Minus 1 kW	On-Peak Usage Minus 1 kWh	Intermediate Minus 1 kWh	Off-Peak Minus 1 kWh
Production & Transmission Demand (kW)	23,400	23,399	23,400	23,400	23,400
Distribution Demand (kW)	23,040	23,039	23,040	23,040	23,040
On-Peak Usage (kWh)	2,884,895	2,884,895	2,884,894	2,884,895	2,884,895
Intermediate Usage (kWh)	2,271,744	2,271,744	2,271,744	2,271,743	2,271,744
Off-Peak Usage (kWh)	5,480,361	5,480,361	5,480,361	5,480,361	5,480,360
Total Usage (kWh)	10,637,000	10,637,000	10,636,999	10,636,999	10,636,999
Breakdown Calculations					
Billing Production & Trans Demand (kW)	23,400	23,399	23,400	23,400	23,400
Billing Distribution Demand (kW)	23,040	23,039	23,040	23,040	23,040
On-Peak Usage (kWh)	2,884,895	2,884,895	2,884,894	2,884,895	2,884,895
Intermediate Usage (kWh)	2,271,744	2,271,744	2,271,744	2,271,743	2,271,744
Off-Peak Usage (kWh)	5,480,361	5,480,361	5,480,361	5,480,361	5,480,360
Total Usage (kWh)	10,637,000	10,637,000	10,636,999	10,636,999	10,636,999
Cost Calculation					
Customer Charge, $	$750.00	$750.00	$750.00	$750.00	$750.00
On-Peak kWh Base Rate Charge, $	$68,083.52	$68,083.52	$68,083.50	$68,083.52	$68,083.52
Intermediate kWh Base Rate Charge, $	$48,615.32	$48,615.32	$48,615.32	$48,615.30	$48,615.32
Off-Peak kWh Base Rate Charge, $	$69,984.21	$69,984.21	$69,984.21	$69,984.21	$69,984.20
Production & Trans Demand Charge, $	$140,166.00	$140,160.01	$140,166.00	$140,166.00	$140,166.00
Distribution Demand Charge, $	$53,683.20	$53,680.87	$53,683.20	$53,683.20	$53,683.20
Other Charges					
Fuel Rate Total Energy Charge, $	$130,515.99	$130,515.99	$130,515.98	$130,515.98	$130,515.98
Electric Environment Surcharge, $	$1,000.00	$1,000.00	$1,000.00	$1,000.00	$1,000.00
Discounts					
Transmission Line Credit, $	($731.00)	($731.00)	($731.00)	($731.00)	($731.00)
Rider #5 A/C Credit, $	$0.00	$0.00	$0.00	$0.00	$0.00
Net Current Bill	$512,067.24	$512,058.92	$512,067.21	$512,067.21	$512,067.22
Incremental/Penalties	n/a	$8.32	$0.03587	$0.03367	$0.02504

Baltimore Gas & Electric Company, P (Primary Voltage Service) Electric Rate Analysis

Prepared by Entech Engineering, Inc.

Incremental Cost Check

$ Calculations on Incrementals

Total Demand ($)	23,400 kW x	$8.32 /kW =	$194,688.00
Off-Peak Usage ($)	5,480,361 kWh	$0.025 /kW =	$137,228.24
Intermediate Usage ($	2,271,744 kWh	$0.034 /kW =	$76,489.62
On-Peak Usage ($)	2,884,895 kWh	$0.036 /kW =	$103,481.18
		Total Calculated Billing Using Incrementals	**$511,887.04**
		Actual Current Period Charges	**$512,067.24**
		Actual Current Period Charges Minus Rider #5	**$512,067.24**
		Cost Variance (Actual Minus Incremental)	**$180.20**
		Percent Variance (Var/Actual)	**0.04%**

METER READING DATES
1/3/95 TO 1/31/95
NEXT SCHEDULED READING DATE
3/2/95
DUE
3/2/95

BALTIMORE GAS AND ELECTRIC COMPANY
P.O. BOX 64844
BALTIMORE, MARYLAND 21264-4844

U S DEPT OF THE ARMY
DAAD 05-70-C-0096
ATTN STEAP-FE-B
ABERDEEN PRV GRND MD 21005

6940
WC

ELECTRIC SCHEDULE P — TIME-OF-DAY (TOD) BILL

	JUN-SEPT 28 Days (1) UNITS	(2) RATE	(3)=(1)x(2) AMOUNT $	OCT-MAY 28 Days (4) UNITS	(5) RATE	(6)=(4)x(5) AMOUNT $	Total (7)=(1)+(4) KWH	(8)=(3)+(6) NET AMT.
A. Customer Charge Per Month								$750.00
B. Demand Charges:	KW	Per KW		KW	Per KW			
Production & Transmission		$12.09		23400	$5.99	$140166.00		140166.00
Distribution		$ 2.33		23040	$2.33	$53683.20		53683.20
C. ENERGY CHARGES:	KWH	Per KWH		KWH	Per KWH			
On-Peak		$.03893		2884895	$.02360	$68083.52		68083.52
Intermediate Peak		$.02845		2271744	$.02140	$48615.32		48615.32
Off-Peak		$.01571		5480361	$.01277	$69984.21		69984.21
Total Energy Charges				10637000			10637000	186683.05
Fuel Rate Total Energy				KWH@ .01227				130515.99
				Sub-Total				511798.24
				County Surcharge				0
				XXXXXXXXXXXXXXXX				1000.00
				Elec. Envir. Surcharge				512798.24
				Sub-Total				-
				XXXXXXXX				731.00 C
				XXXXXXXXXXXXXXXX			Net:	
				Total Electric Gross:		$512067.24		512067.24

FOR OFFICE USE ONLY	
TC	C/C
SCHED. CODE	
NO. OF METERS	
LATE PYMT. CHG.	
MINIMUM CHARGE: $750.00 PLUS DEMAND CHARGE	

RIDER #5 AIR CONDITIONING CREDIT

CREDIT FOR USE OF TRANSMISSION LINE
PER CONTRACT DATED 6/26/50

DATE: 1/5/95
TIME: 8:30
DEM KW: 23400

(FORM) 7/94

Baltimore Gas & Electric Company, P (Primary Voltage Service) Electric Rate Analysis

Prepared by Entech Engineering, Inc.

Billing and Client Information

Client	Aberdeen Proving Grounds
Billing Year	1996
Billing Period	June
# of Billing Days	29
Enter "1" for Oct-May, 0 for Jun-Sept	0
Rates Schedule in Effect	Summer

Demand and Usage Information

Supply Voltage	13,200
Demand Measurements	
Production & Transmission Demand (kW)	24,840
Distribution Demand (kW)	24,840
Usage Measurements	
On-Peak Period (kWh)	3,974,633
Intermediate Period (kWh)	2,085,533
Off-Peak Period (kWh)	4,642,834
Total (kWh)	10,703,000

Taxes and Special Adjustments

Fuel Rate Total Energy Charge	$0.01227
Electric Environment Surcharge	$1,000.00
Credits	
Transmission Line Contract 6/26/50	($731.00)
Rider #5 Air Conditioning Credit	($6,220.00)

Baltimore Gas & Electric Company, P (Primary Voltage Service) Electric Rate Analysis

Prepared by Entech Engineering, Inc.

Duplicated Electric Bill

Customer Charge	1 Bill @	$750.00	Per Bill =	$750.00
On-Peak Usage Charge				
Base Rate Charge	3,974,633 kWh @	$0.03861	Per kWh =	$153,460.58
Intermediate Usage Charge				
Base Rate Charge	2,085,533 kWh @	$0.02813	Per kWh =	$58,666.04
Off-Peak Usage Charge				
Base Rate Charge	4,642,834 kWh @	$0.01539	Per kWh =	$71,453.22
Demand Charges				
Distribution Demand Charg	24,840 kW @	$2.33	Per kW =	$57,877.20
Prod & Trans Demand Char	24,840 kW @	$12.09	Per kW =	$300,315.60
Other Charges and Credits				
Fuel Rate Total Energy Charg	$0.01227 $/kWh x	$10,703,000	Subtotal =	$131,325.81
Electric Envir Surcharge		$1,000.00	Subtotal =	$1,000.00
Transmission Line Credit		($731.00)	Subtotal =	($731.00)
Rider #5 A/C Credit		($6,220.00)	Subtotal =	($6,220.00)
			CURRENT PERIOD CHARGES	$767,897.45

Calculated Incremental

Total Incremental Cost Per kW	$14.42
Incremental Cost Per On-Peak kWh	$0.05088
Incremental Cost Per Intermediate kWh	$0.04040
Incremental Cost Per Off-Peak kWh	$0.02766

Calculated Billing Statistics Based on Incremental Costs

Demand Cost	$358,192.80	Energy Cost	$414,905.65
% Demand	46.6%	% Energy	54.0%

Current Electric Tariff (Rate P)

	Summer	Non-Summer
Customer Charge ($/Bill)	$750.00	$750.00
Production & Transmission Demand Charge ($/kW)	$12.09	$5.99
Distribution Demand Charge ($/kW)	$2.33	$2.33
On-Peak Usage Charge ($/kWh)	$0.03861	$0.02328
Intermediate Usage Charge ($/kWh)	$0.02813	$0.02108
Off-Peak Usage Charge ($/kWh)	$0.01539	$0.01245

Baltimore Gas & Electric Company, P (Primary Voltage Service) Electric Rate Analysis

Prepared by Entech Engineering, Inc.

Electric Bill Calculation

Calculation Description	Actual Billing	Demand, kW Minus 1 kW	On-Peak Usage Minus 1 kWh	Intermediate Minus 1 kWh	Off-Peak Minus 1 kWh
Production & Transmission Demand (kW)	24,840	24,839	24,840	24,840	24,840
Distribution Demand (kW)	24,840	24,839	24,840	24,840	24,840
On-Peak Usage (kWh)	3,974,633	3,974,633	3,974,632	3,974,633	3,974,633
Intermediate Usage (kWh)	2,085,533	2,085,533	2,085,533	2,085,532	2,085,533
Off-Peak Usage (kWh)	4,642,834	4,642,834	4,642,834	4,642,834	4,642,833
Total Usage (kWh)	10,703,000	10,703,000	10,702,999	10,702,999	10,702,999
Breakdown Calculations					
Billing Production & Trans Demand (kW)	24,840	24,839	24,840	24,840	24,840
Billing Distribution Demand (kW)	24,840	24,839	24,840	24,840	24,840
On-Peak Usage (kWh)	3,974,633	3,974,633	3,974,632	3,974,633	3,974,633
Intermediate Usage (kWh)	2,085,533	2,085,533	2,085,533	2,085,532	2,085,533
Off-Peak Usage (kWh)	4,642,834	4,642,834	4,642,834	4,642,834	4,642,833
Total Usage (kWh)	10,703,000	10,703,000	10,702,999	10,702,999	10,702,999
Cost Calculation					
Customer Charge, $	$750.00	$750.00	$750.00	$750.00	$750.00
On-Peak kWh Base Rate Charge, $	$153,460.58	$153,460.58	$153,460.54	$153,460.58	$153,460.58
Intermediate kWh Base Rate Charge, $	$58,666.04	$58,666.04	$58,666.04	$58,666.02	$58,666.04
Off-Peak kWh Base Rate Charge, $	$71,453.22	$71,453.22	$71,453.22	$71,453.22	$71,453.20
Production & Trans Demand Charge, $	$300,315.60	$300,303.51	$300,315.60	$300,315.60	$300,315.60
Distribution Demand Charge, $	$57,877.20	$57,874.87	$57,877.20	$57,877.20	$57,877.20
Other Charges					
Fuel Rate Total Energy Charge, $	$131,325.81	$131,325.81	$131,325.80	$131,325.80	$131,325.80
Electric Environment Surcharge, $	$1,000.00	$1,000.00	$1,000.00	$1,000.00	$1,000.00
Discounts					
Transmission Line Credit, $	($731.00)	($731.00)	($731.00)	($731.00)	($731.00)
Rider #5 A/C Credit, $	($6,220.00)	($6,220.00)	($6,220.00)	($6,220.00)	($6,220.00)
Net Current Bill	$767,897.45	$767,883.03	$767,897.40	$767,897.41	$767,897.42
Incremental/Penalties	n/a	$14.42	$0.05088	$0.04040	$0.02766

Prepared by Entech Engineering, Inc.

Incremental Cost Check

$ Calculations on Incrementals			
Total Demand ($)	24,840 kW x	$14.42 /kW =	$358,192.80
Off-Peak Usage ($)	4,642,834 kWh	$0.028 /kW =	$128,420.79
Intermediate Usage ($	2,085,533 kWh	$0.040 /kW =	$84,255.53
On-Peak Usage ($)	3,974,633 kWh	$0.051 /kW =	$202,229.33
		Total Calculated Billing Using Incrementals	**$773,098.45**
		Actual Current Period Charges	**$767,897.45**
		Actual Current Period Charges Minus Rider #5	**$774,117.45**
		Cost Variance (Actual Minus Incremental)	**$1,019.00**
		Percent Variance (Var/Actual)	**0.13%**

P.02

METER READING DATES
6/1/95 to 6/30/95

NEXT SCHEDULED READING DATE
8/2/95

DUE
8/3/95

BALTIMORE GAS AND ELECTRIC COMPANY
P.O. BOX 64844
BALTIMORE, MARYLAND 21264-4844

5600 MARYLAND BLVD *SECT AA 9726
U S DEPT OF THE ARMY 6940
DAAD 05-70-C-0096 W C
ATTN STEAP-FE-B
ABERDEEN PRV GRND MD 21005

ELECTRIC SCHEDULE P TIME-OF-DAY (TOD) BILL

	JUN-SEPT 29 Days			OCT-MAY Days			Total	
	(1) UNITS	(2) RATE	(3)=(1)x(2) AMOUNT $	(4) UNITS	(5) RATE	(6)=(4)x(5) AMOUNT $	(7)=(1)+(4) KWH	(8)=(3)+(6) NET AMT.
A. Customer Charge Per Month								$ 750.00
B. Demand Charges:	KW	Per KW		KW	Per KW			
Production & Transmission	24840	$ 12.09	300315.60		$ 5.99			300315.60
Distribution	24840	$ 2.33	57877.20		$ 2.33			57877.20
C. ENERGY CHARGES:	KWH	Per KWH		KWH	Per KWH			
On-Peak	3974633	$.03861	153460.58		.02328			153460.58
Intermediate Peak	2085533	$.02813	58666.04		.02108			58666.04
Off-Peak	4642834	$.01539	71453.22		.01245			71453.22
Total Energy Charges	10703000						10703000	283579.84

FOR OFFICE USE ONLY	
TC	C/C
SCHED. CODE	
NO. OF METERS	
LATE PYMT. CHG.	
MINIMUM CHARGE: $ 750.00 PLUS DEMAND CHARGE	

Rider 5 Air Conditioning Credit

Credit for use of transmission line per contract dated 6/26/50

Demand 24840
Date 6/21/95
Time 14:45

Fuel Rate Total Energy	KWH @ .01227	131325.81
Sub-Total		773848.45
County Surcharge		
Supp. Serv. Charge		6220.00
Elec. Envir. Surcharge		1000.00
Sub-Total		768628.45
State Tax		731.00CR
City/County Tax		
Total Electric Gross:	Net:	
	$ 767897.45	$ 767897.45

ATTACHMENT 8.7
ELECTRIC SUBMETER READINGS

METER READING DATES
12/2/93 TO 1/3/94

NEXT SCHEDULED READING DATE
12/31/94

DUE
1/26/94

BALTIMORE GAS & ELECTRIC COMPANY
P.O. BOX 630632
BALTIMORE, MARYLAND 21263

5000 MARYLAND BLVD #SUITE 7AA
U S DEPT OF THE ARMY
DAAD 05-70-C-0096
ATTN STEAP-SV-RP.
ABRDN PRV GRD MD 21005

Pay Gross Total After
9722
6940
W4C 1/26/94

Return This Stub With Payment

	METER NUMBER	METER READINGS-INCLUDING CONSTANT PRESENT	PREVIOUS	UNITS- GAS-100 CU. FT. ELEC. - KWH	GROSS AMOUNT	NET AMOUNT
					540949.45	540949.45
ELEC	20	38716000	38550000	166000		
ELEC	22	95942000	92581000	3361000		
ELEC	23	80788000	72542000	8246000		
				11773000		
					PRIOR BILL	
					GROSS TOTAL	NET TOTAL

GAS-SCHEDULE C

	CUSTOMER CHARGE	GAS UNITS USED	x THERMS PER UNIT	= THERMS BILLED

	CUSTOMER CHARGE	THERMS BY RATE BLOCKS & NET RATE PER THERM		
RATES	$15.00	$.1550	$.0764	
THERMS		10000		
AMOUNT $				

	GROSS AMOUNT	NET AMOUNT
Purchased Gas Adj.		
Total Therms @		
COUNTY SURCHARGE		
TOTAL		
STATE TAX		
CITY-COUNTY TAX		
TOTAL GAS		

ELECTRIC - SCHEDULE P
SEE ATTACHED PAGE FOR SCHEDULE P BILLING DATA

	GROSS AMOUNT	NET AMOUNT
Brought Forward from Attached Page-		
TOTAL ELECTRIC	540944.45	540944.45
Prior Bill(s)		
Rentals Incl. State Tax		
Dem. Hist. Rec. Chg.	5.00	5.00
TOTAL BILL	540949.45	540949.45

Federal Tax Identification # 52-0280210

M-7375 (7/93)

METER READING DATES
1/3/94 TO 1/31/94

NEXT SCHEDULED READING DATE
3/2/94

DUE
2/28/94

BALTIMORE GAS & ELECTRIC COMPANY
P.O. BOX 630632
BALTIMORE, MARYLAND 21263

5600 MARYLAND BLVD *SECT AA
U S DEPT OF THE ARMY
DAAD 05-70-C-0096
ATTN STEAP-SV-RP
ABRDN PRV GRD MD 21005

Baltimore Gas & Electric Company

Pay Gross Total After

9722
6940
W4C 2/28/94

Return This Stub With Payment

	METER NUMBER	METER READINGS-INCLUDING CONSTANT PRESENT	PREVIOUS	UNITS- GAS-100 CU. FT. ELEC. - KWH	GROSS AMOUNT	NET AMOUNT
ELEC	20	38858000	38716000	142000	591463.72	591463.72
ELEC	22	03361000	95942000	7419000		
ELEC	23	85250000	80788000	4462000		
				12023000		

PRIOR BILL

GROSS TOTAL | NET TOTAL

GAS-SCHEDULE C

GAS UNITS USED x THERMS PER UNIT = THERMS BILLED

	CUSTOMER CHARGE	THERMS BY RATE BLOCKS & NET RATE PER THERM			Purchased Gas Adj. / Total Therms @	GROSS AMOUNT	NET AMOUNT
RATES	$15.00	$.1550	$.0764				
THERMS		10000					
AMOUNT $							

	GROSS AMOUNT	NET AMOUNT
COUNTY SURCHARGE		
TOTAL		
STATE TAX		
CITY-COUNTY TAX		
TOTAL GAS		

ELECTRIC - SCHEDULE P

SEE ATTACHED PAGE FOR SCHEDULE P BILLING DATA

	GROSS AMOUNT	NET AMOUNT
Brought Forward from Attached Page- TOTAL ELECTRIC	591458.72	591458.72
Prior Bill(s)		
Rentals Incl. State Tax		
Dem. Hist. Rec. Chg.	5.00	5.00
TOTAL BILL	591463.72	591463.72

Federal Tax Identification # 52-0280210

M-7375 (7/93)

METER READING DATES
1/31/94 TO 3/2/94

NEXT SCHEDULED READING DATE
3/31/94

DUE
3/25/94

BALTIMORE GAS & ELECTRIC COMPANY
P.O. BOX 630632
BALTIMORE, MARYLAND 21263

5600 MARYLAND BLVD SEC [illegible]
U S DEPT OF THE ARMY
DAAD 05-70-C-0096
ATTN STEAP-SV-RP
ABRDN PRV GRD MD 21005

Pay Gross Total After
9722
6940
W4C 3/25/94

Return This Stub With Payment

	METER NUMBER	METER READINGS-INCLUDING CONSTANT PRESENT	PREVIOUS	UNITS- GAS-100 CU. FT. ELEC. - KWH	GROSS AMOUNT	NET AMOUNT
ELEC	20	39025000	38858000	167000	588826.96	588826.96
ELEC	22	11002000	03361000	7641000		
ELEC	23	89784000	85250000	4534000		
				12342000		
				PRIOR BILL	592194.72	592194.72
				GROSS TOTAL	1181021.68	NET TOTAL 1181021.68

GAS-SCHEDULE C

GAS UNITS USED x THERMS PER UNIT = THERMS BILLED

	CUSTOMER CHARGE	THERMS BY RATE BLOCKS & NET RATE PER THERM			Purchased Gas Adj. / Total Therms @	GROSS AMOUNT	NET AMOUNT
RATES	$15.00	$.1550	$.0764				
THERMS		10000					
AMOUNT $							

	GROSS AMOUNT	NET AMOUNT
COUNTY SURCHARGE		
TOTAL		
STATE TAX		
CITY-COUNTY TAX		
TOTAL GAS		

ELECTRIC - SCHEDULE P

SEE ATTACHED PAGE FOR SCHEDULE P BILLING DATA

	GROSS AMOUNT	NET AMOUNT
Brought Forward from Attached Page- TOTAL ELECTRIC	588821.96	588821.96
Prior Bill(s)	592194.72	592194.72
Rentals Incl. State Tax		
Dem. Hist. Rec. Chg.	5.00	5.00
TOTAL BILL	1181021.68	1181021.68

Federal Tax Identification # 52-0280210

M-7175 (7/93)

METER READING DATES
3/2/94 TO 3/31/94
NEXT SCHEDULED READING DATE
4/29/94
DUE
4/27/94

BALTIMORE GAS & ELECTRIC COMPANY
P.O. BOX 630632
BALTIMORE, MARYLAND 21263

5600 MARYLAND BLVD *SECT AA
U S DEPT OF THE ARMY
DAAD 05-70-C-0096
ATTN STEAP-SV-RP
ABRDN PRV GRD MD 21005

Baltimore Gas & Electric Company
Pay Gross Total After

9722
6940
W4C 4/27/94

Return This Stub With Payment

	METER NUMBER	METER READINGS-INCLUDING CONSTANT PRESENT	PREVIOUS	UNITS- GAS-100 CU. FT. ELEC. - KWH
ELEC	20	39171000	39025000	146000
ELEC	22	17758000	11002000	6756000
ELEC	23	93788000	89784000	4004000
				10906000

	GROSS AMOUNT	NET AMOUNT
	535739.08	535739.08
PRIOR BILL		
GROSS TOTAL / NET TOTAL		

GAS-SCHEDULE C

GAS UNITS USED x THERMS PER UNIT = THERMS BILLED

	CUSTOMER CHARGE	THERMS BY RATE BLOCKS & NET RATE PER THERM			Purchased Gas Adj. / Total Therms @	GROSS AMOUNT	NET AMOUNT
RATES	$15.00	$.1550	$.0764				
THERMS		10000					
AMOUNT $							

	GROSS AMOUNT	NET AMOUNT
COUNTY SURCHARGE		
TOTAL		
STATE TAX		
CITY-COUNTY TAX		
TOTAL GAS		

ELECTRIC - SCHEDULE P

SEE ATTACHED PAGE FOR SCHEDULE P BILLING DATA

	GROSS AMOUNT	NET AMOUNT
Brought Forward from Attached Page- TOTAL ELECTRIC	535734.08	535734.08
Prior Bill(s)		
Rentals Incl. State Tax		
Dem. Hist. Rec. Chg.	5.00	5.00
TOTAL BILL	535739.08	535739.08

Federal Tax Identification # 52 0280210

M-7335 (2/93)

METER READING DATES
3/31/94 TO 4/29/94

NEXT SCHEDULED READING DATE
6/1/94

DUE
6/9/94

BALTIMORE GAS & ELECTRIC COMPANY
P.O. BOX 630632
BALTIMORE, MARYLAND 21263

5600 MARYLAND BLVD *SECT AA
U S DEPT OF THE ARMY
DAAD 05-70-C-0096
ATTN STEAP-SV-RP
ABERDEEN PRV GRND MD 21005

Baltimore Gas & Electric Company

Pay Gross Total After
9722
6940
WC 6/9/94
Return This Stub With Payment

	METER NUMBER	METER READINGS-INCLUDING CONSTANT PRESENT	PREVIOUS	UNITS- GAS-100 CU. FT. ELEC. - KWH	GROSS AMOUNT	NET AMOUNT
ELEC	20	39319000	39171000	148000	437157.55	437157.55
ELEC	22	23190000	17758000	5432000		
ELEC	23	97140000	93788000	3352000		
				8932000	PRIOR BILL	
					GROSS TOTAL	NET TOTAL

GAS-SCHEDULE C

GAS UNITS USED x THERMS PER UNIT = THERMS BILLED

	CUSTOMER CHARGE	THERMS BY RATE BLOCKS & NET RATE PER THERM		
RATES	$15.00	$.1550	$.0764	
THERMS		10000		
AMOUNT $				

	GROSS AMOUNT	NET AMOUNT
Purchased Gas Adj.		
Total Therms @		
COUNTY SURCHARGE		
TOTAL		
STATE TAX		
CITY-COUNTY TAX		
TOTAL GAS		

ELECTRIC - SCHEDULE P
SEE ATTACHED PAGE FOR SCHEDULE P BILLING DATA

	GROSS AMOUNT	NET AMOUNT
Brought Forward from Attached Page- TOTAL ELECTRIC	437152.55	437152.55
Prior Bill(s)		
Rentals Incl. State Tax		
Dem. Hist. Rec. Chg.	5.00	5.00
TOTAL BILL	437157.55	437157.55

Federal Tax Identification # 52-0280210

M-7375 (7/93)

METER READING DATES
4/29/94 to 6/1/94

NEXT SCHEDULED READING DATE
6/30/94

DUE
6/28/94

BALTIMORE GAS & ELECTRIC COMPANY [redacted] OF [redacted] ARE [redacted]
P.O. BOX 630632
BALTIMORE, MARYLAND 21263

DAAD 05-70-C-0096
ATTN STEAP-SV-RP
ABERDEEN PRV GRND MD 21005

Pay [redacted] To [redacted] ter [redacted]
9722
6940
W C 6/28/94

Return This Stub With Payment

	METER NUMBER	METER READINGS-INCLUDING CONSTANT PRESENT	PREVIOUS	UNITS- GAS-100 CU. FT. ELEC. - KWH	GROSS AMOUNT	NET AMOUNT
					472376.31	472376.31
ELEC	20	39494000	39319000	175000		
ELEC	22	29188000	23190000	5998000		
ELEC	23	00887000	97140000	3747000		
				9920000		
					PRIOR BILL	
					GROSS TOTAL	NET TOTAL

GAS-SCHEDULE C

	CUSTOMER CHARGE	GAS UNITS USED x THERMS PER UNIT = THERMS BILLED		
		THERMS BY RATE BLOCKS & NET RATE PER THERM		
RATES	$15.00	$.1550	$.0764	
THERMS		10000		
AMOUNT $				

	GROSS AMOUNT	NET AMOUNT
Purchased Gas Adj.		
Total Therms @		
COUNTY SURCHARGE		
TOTAL		
STATE TAX		
CITY-COUNTY TAX		
TOTAL GAS		

ELECTRIC - SCHEDULE P

SEE ATTACHED PAGE FOR SCHEDULE P BILLING DATA

	GROSS AMOUNT	NET AMOUNT
Brought Forward from Attached Page-		
TOTAL ELECTRIC	472371.31	472371.31
Prior Bill(s)		
Rentals Incl. State Tax		
Dem. Hist. Rec. Chg.	5.00	5.00
TOTAL BILL	472376.31	472376.31

Federal Tax Identification # 52-0280210

M-7375 (7/93)

METER READING DATES
6/1/94 to 6/30/94

NEXT SCHEDULED READING DATE
8/1/94

DUE
7/27/94

BALTIMORE GAS & ELECTRIC COMPANY
P.O. BOX 630632
BALTIMORE, MARYLAND 21263

U S DEPT OF THE ARMY
DAAD 05-70-C-0096
ATTN STEAP-SV-RP
ABERDEEN PRV GRND MD 21005

Pay Gross Total After
9722
6940
W C 7/27/94

Return This Stub With Payment

	METER NUMBER	METER READINGS-INCLUDING CONSTANT PRESENT	PREVIOUS	UNITS- GAS-100 CU. FT. ELEC. - KWH
ELEC	20	39674000	39494000	180000
ELEC	22	35406000	29188000	6218000
ELEC	23	05934000	00887000	5047000
				11445000

	GROSS AMOUNT	NET AMOUNT
	833260.63	833260.63
PRIOR BILL		
GROSS TOTAL		NET TOTAL

GAS-SCHEDULE C

GAS UNITS USED x THERMS PER UNIT = THERMS BILLED

	CUSTOMER CHARGE	THERMS BY RATE BLOCKS & NET RATE PER THERM		
RATES	$15.00	$	$	
THERMS		10000		
AMOUNT $				

	GROSS AMOUNT	NET AMOUNT
Purchased Gas Adj.		
Total Therms @		
COUNTY SURCHARGE		
TOTAL		
STATE TAX		
CITY-COUNTY TAX		
TOTAL GAS		

ELECTRIC - SCHEDULE P

SEE ATTACHED PAGE FOR SCHEDULE P BILLING DATA

	GROSS AMOUNT	NET AMOUNT
Brought Forward from Attached Page-		
TOTAL ELECTRIC	833255.63	833255.63
Prior Bill(s)		
Rentals Incl. State Tax		
Dem. Hist. Rec. Chg.	5.00	5.00
TOTAL BILL	833260.63	833260.63

Federal Tax Identification # 52-0280210

M-7375 (7/93)

METER READING DATES
6/30/94 TO 8/1/94
NEXT SCHEDULED READING DATE
8/31/94
DUE
8/24/94

BALTIMORE GAS & ELECTRIC COMPANY
P.O. BOX 630632
BALTIMORE, MARYLAND 21263

U S DEPT OF THE ARMY
DAAD 05-70-C-0096
ATTN STEAP-SV-RP
ABERDEEN PRV GRND MD 21005

Baltimore Gas & Electric Company
Pay Gross Total After
9722
6940
WC 8/24/94
Return This Stub With Payment

	METER NUMBER	METER READINGS-INCLUDING CONSTANT PRESENT	PREVIOUS	UNITS- GAS-100 CU. FT. ELEC. - KWH	GROSS AMOUNT	NET AMOUNT
ELEC	20	39885000	39674000	211000	865233.70	865233.70
ELEC	22	41200000	35406000	5794000		
ELEC	23	12770000	05934000	6836000		
				12841000		
					PRIOR BILL	
					GROSS TOTAL.	NET TOTAL

GAS-SCHEDULE C

GAS UNITS USED x THERMS PER UNIT = THERMS BILLED

	CUSTOMER CHARGE	THERMS BY RATE BLOCKS & NET RATE PER THERM			Purchased Gas Adj.	GROSS AMOUNT	NET AMOUNT
					Total Therms @		
RATES	$15.00	$.1630	$.0844				
THERMS		10000					
AMOUNT $							
					COUNTY SURCHARGE		
					TOTAL		
					STATE TAX		
					CITY-COUNTY TAX		
					TOTAL GAS		

ELECTRIC - SCHEDULE P

SEE ATTACHED PAGE FOR SCHEDULE P BILLING DATA

	GROSS AMOUNT	NET AMOUNT
Brought Forward from Attached Page-		
TOTAL ELECTRIC	865228.70	865228.70
Prior Bill(s)		
Rentals Incl. State Tax		
Dem. Hist. Rec. Chg.	5.00	5.00
TOTAL BILL	865233.70	865233.70

Federal Tax Identification # 52 0280210

M-7375 (7/94)

8/1/94 to 8/31/94

P.O. BOX 630632
BALTIMORE, MARYLAND 21263

[redacted]00 [redacted]LAN [redacted]LVD [redacted]CT

Pay [redacted] Tota[redacted]er

NEXT SCHEDULED READING DATE
10/3/94

DUE
9/27/94

U S DEPT OF THE ARMY
DAAD 05-70-C-0096
ATTN STEAP-FE-B
ABERDEEN PRV GRD MD 21005

9722
6940
W C 9/27/94

Return This Stub With Payment

	METER NUMBER	METER READINGS-INCLUDING CONSTANT PRESENT	PREVIOUS	UNITS- GAS-100 CU. FT. ELEC. - KWH	GROSS AMOUNT	NET AMOUNT
ELEC	20	40025000	39885000	140000	813873.92	813873.92
ELEC	22	46603000	41200000	5403000		
ELEC	23	18778000	12770000	6008000		
				11551000		

PRIOR BILL

GROSS TOTAL | NET TOTAL

GAS-SCHEDULE C

GAS UNITS USED x THERMS PER UNIT = THERMS BILLED

	CUSTOMER CHARGE	THERMS BY RATE BLOCKS & NET RATE PER THERM			Purchased Gas Adj.	GROSS AMOUNT	NET AMOUNT
					Total Therms @		
RATES	$15.00	$.1630	$.0844				
THERMS		10000					
AMOUNT $							

	GROSS AMOUNT	NET AMOUNT
COUNTY SURCHARGE		
TOTAL		
STATE TAX		
CITY-COUNTY TAX		
TOTAL GAS		

ELECTRIC - SCHEDULE P

SEE ATTACHED PAGE FOR SCHEDULE P BILLING DATA

	GROSS AMOUNT	NET AMOUNT
Brought Forward from Attached Page- TOTAL ELECTRIC	813873.92	813873.92
Prior Bill(s)		
Rentals Incl. State Tax		
Dem. Hist. Rec. Chg.	5.00	5.00
TOTAL BILL	813878.92	813878.92

Federal Tax Identification # 52-0280210

M-7375 (7/94)

8/31/94 TO 10/3/94

NEXT SCHEDULED READING DATE
11/1/94

DUE
11/3/94

P.O. BOX 630632
BALTIMORE, MARYLAND 21263

5600 MARYLAND BLVD *SEC AA
U S DEPT OF THE ARMY
DAAD 05-70-C-0096
ATTN STEAP-FE-B
ABERDEEN PRV GRND MD 21005

9722
6940
WC 11/3/94
Return This Stub With Payment

	METER NUMBER	METER READINGS-INCLUDING CONSTANT PRESENT	PREVIOUS	UNITS- GAS-100 CU. FT. ELEC. - KWH	GROSS AMOUNT	NET AMOUNT
ELEC	20	40189000	40025000	1640000	744529.83	744529.83
ELEC	22	51958000	46603000	5355000		
ELEC	23	24395000	18778000	5617000		
				11136000		
					PRIOR BILL	
					GROSS TOTAL	NET TOTAL

GAS-SCHEDULE C

GAS UNITS USED x THERMS PER UNIT = THERMS BILLED

	CUSTOMER CHARGE	THERMS BY RATE BLOCKS & NET RATE PER THERM			Purchased Gas Adj.	GROSS AMOUNT	NET AMOUNT
RATES	$15.00	$.1630	$.0844		Total Therms @		
THERMS		10000					
AMOUNT $							
					COUNTY SURCHARGE		
					TOTAL		
					STATE TAX		
					CITY-COUNTY TAX		
					TOTAL GAS		

ELECTRIC - SCHEDULE P

SEE ATTACHED PAGE FOR SCHEDULE P BILLING DATA

	GROSS AMOUNT	NET AMOUNT
Brought Forward from Attached Page- TOTAL ELECTRIC	744524.83	744524.83
Prior Bill(s)		
Rentals Incl. State Tax		
Dem. Hist. Rec. Chg.	5.00	5.00
TOTAL BILL	744529.83	744529.83

Federal Tax Identification # 52-0280210

M-7375 (7/94)

ME[illegible]DING

10/3/94 TO 11/1/94

NEXT SCHEDULED READING DATE

12/2/94

DUE

12/1/94

P.O. BOX 630632
BALTIMORE, MARYLAND 21263

U S DEPT OF THE ARMY
DAAD 05-70-C-0096
ATTN STEAP-FE-B
ABERDEEN PRV GRND MD 21005

9722
6940
WC 12/1/94

Return This Stub With Payment

	METER NUMBER	METER READINGS-INCLUDING CONSTANT PRESENT	PREVIOUS	UNITS- GAS-100 CU. FT. ELEC. - KWH	GROSS AMOUNT	NET AMOUNT
					402945.13	402945.13
ELEC	20	40331000	40189000	142000		
ELEC	22	55546000	51598000	3588000		
ELEC	23	29165000	24395000	4770000		
				8500000		
					PRIOR BILL	
					GROSS TOTAL	NET TOTAL

GAS-SCHEDULE C

GAS UNITS USED x THERMS PER UNIT = THERMS BILLED

	CUSTOMER CHARGE	THERMS BY RATE BLOCKS & NET RATE PER THERM		
RATES	$15.00	$.1630	$.0844	
THERMS		10000		
AMOUNT $				

	GROSS AMOUNT	NET AMOUNT
Purchased Gas Adj.		
Total Therms @		
COUNTY SURCHARGE		
TOTAL		
STATE TAX		
CITY-COUNTY TAX		
TOTAL GAS		

ELECTRIC - SCHEDULE P

SEE ATTACHED PAGE FOR SCHEDULE P BILLING DATA

	GROSS AMOUNT	NET AMOUNT
Brought Forward from Attached Page-		
TOTAL ELECTRIC	402940.13	402940.13
Prior Bill(s)		
Rentals Incl. State Tax		
Dem. Hist. Rec. Chg.	5.00	5.00
TOTAL BILL	402945.13	402945.13

Federal Tax Identification # 52-0280210

M-7375 (7/94)

.00
C

11/1/94 TO 12/2/94

NEXT SCHEDULED READING DATE
1/3/95

DUE
1/4/95

P.O. BOX 630632
BALTIMORE, MARYLAND 21263

US DEPT OF THE ARMY
DAAD 05-70-C-0096
ATTN STEAP FE B
ABERDEEN PRV GRND MD 21005

Pay Gross Total After
9722
6940
WC 1/4/95
Return This Stub With Payment

	METER NUMBER	METER READINGS-INCLUDING CONSTANT PRESENT	PREVIOUS	UNITS- GAS-100 CU. FT. ELEC. - KWH	GROSS AMOUNT	NET AMOUNT
ELEC	20	40415000	40331000	84000	404202.93	404202.93
ELEC	22	59653000	55546000	4107000		
ELEC	23	34569000	29165000	5404000		
				9595000		

PRIOR BILL

GROSS TOTAL | NET TOTAL

GAS-SCHEDULE C

GAS UNITS USED x THERMS PER UNIT = THERMS BILLED

	CUSTOMER CHARGE	THERMS BY RATE BLOCKS & NET RATE PER THERM			Purchased Gas Adj.	GROSS AMOUNT	NET AMOUNT
RATES	$15.00	$.1630	$.0844		Total Therms @		
THERMS		10000					
AMOUNT $							

COUNTY SURCHARGE		
TOTAL		
STATE TAX		
CITY-COUNTY TAX		
TOTAL GAS		

ELECTRIC - SCHEDULE P

SEE ATTACHED PAGE FOR SCHEDULE P BILLING DATA

Brought Forward from Attached Page-	TOTAL ELECTRIC	404197.93	404197.93
	Prior Bill(s)		
	Rentals Incl. State Tax		
	Dem. Hist. Rec. Chg.	5.00	5.00
	TOTAL BILL	404202.93	404202.93

Federal Tax Identification # 52-0280210

M-7435 (2/94)

12/2/94 1 3/95

NEXT SCHEDULE... ...ADING DATE

1/31/95

DUE
2/13/95

P.O. BOX 64844
BALTIMORE, MARYLAND 2126[illegible] 4

U S DEPT OF THE ARMY
DAAD 05-70-C-0096
ATTN STEAP-FE-B
ABERDEEN PRV GRND MD 21005

Pay Gr[illegible]
9726
6940
WC 2/13/95

Return This Stub With Payment

	METER NUMBER	METER READINGS-INCLUDING CONSTANT PRESENT	PREVIOUS	UNITS- GAS-100 CU. FT. ELEC. - KWH	GROSS AMOUNT	NET AMOUNT
ELEC	20	40555000	40415000	140000	492221.03	492221.03
ELEC	22	64411000	59653000	4758000		
ELEC	23	40472000	34569000	5903000		
				10801000		

PRIOR BILL

GROSS TOTAL | NET TOTAL

GAS-SCHEDULE C

GAS UNITS USED x THERMS PER UNIT = THERMS BILLED

	CUSTOMER CHARGE	THERMS BY RATE BLOCKS & NET RATE PER THERM			Purchased Gas Adj.		
					Total Therms @	GROSS AMOUNT	NET AMOUNT
RATES	$15.00	$.1630	$.0844				
THERMS		10000					
AMOUNT $							

	GROSS AMOUNT	NET AMOUNT
COUNTY SURCHARGE		
TOTAL		
STATE TAX		
CITY-COUNTY TAX		
TOTAL GAS		

ELECTRIC - SCHEDULE P

SEE ATTACHED PAGE FOR SCHEDULE P BILLING DATA

	GROSS AMOUNT	NET AMOUNT
Brought Forward from Attached Page-		
TOTAL ELECTRIC	492221.03	492221.03
Prior Bill(s)		
Rentals Incl. State Tax		
Dem. Hist. Rec. Chg.		
TOTAL BILL		

Federal Tax Identification # 52-0280210

M-7375 (7/94)

METER READING DATES
3/95 TO 1/31/95
NEXT SCHEDULED READING DATE
2/95
DUE
2/95

P.O. BOX 64844
BALTIMORE, MARYLAND 21264-4844

U S DEPT OF THE ARMY
DAAD 05-70-C-0096
ATTN STEAP-FE-B
ABERDEEN PRV GRND MD 21005

9726
6940
WC 3/2/95
Return This Stub With Payment

	METER NUMBER	METER READINGS-INCLUDING CONSTANT PRESENT	PREVIOUS	UNITS- GAS-100 CU. FT. ELEC. - KWH
EC	20	40700000	40555000	145000
EC	22	69691000	64411000	5280000
EC	23	45684000	40472000	5212000
				10637000

	GROSS AMOUNT	NET AMOUNT
	512072.24	512072.24
PRIOR BILL	492226.03	492226.03
GROSS TOTAL	1004298.27	1004298.27

GAS-SCHEDULE C

	GAS UNITS USED	x THERMS PER UNIT	= THERMS BILLED

	CUSTOMER CHARGE	THERMS BY RATE BLOCKS & NET RATE PER THERM	
RATES	$15.00	$.1630	$.0844
THERMS		10000	
AMOUNT $			

	GROSS AMOUNT	NET AMOUNT
Purchased Gas Adj.		
Total Therms @ $		
COUNTY SURCHARGE		
TOTAL		
STATE TAX		
CITY-COUNTY TAX		
TOTAL GAS		

ELECTRIC - SCHEDULE P

SEE ATTACHED PAGE FOR SCHEDULE P BILLING DATA

	GROSS AMOUNT	NET AMOUNT
Brought Forward from Attached Page-		
TOTAL ELECTRIC	512067.24	512067.24
Prior Bill(s)	492226.03	492226.03
Rentals Incl. State Tax		
Dem. Hist. Rec. Chg.	5.00	5.00
TOTAL BILL	1004298.27	1004298.27

Federal Tax Identification # 52-0280210

M 7375 (7/94)

METER READING DATES

1/31/95 to 3/2/95

NEXT SCHEDULED READING DATE

3/31/95

DUE

3/29/95

BALTIMORE GAS & ELECTRIC COMPANY

P.O. BOX 64844

BALTIMORE, MARYLAND 21264-4844

5600 MARYLAND BLVD *SECT AA
U S DEPT OF THE ARMY
DAAD 05-70-C-0096
ATTN STEAP-FE-B
ABERDEEN PRV GRND MD 21005

Pay Gross Total After

9726
6940
W C 3/29/95

Return This Stub With Payment

	METER NUMBER	METER READINGS-INCLUDING CONSTANT PRESENT	PREVIOUS	UNITS- GAS-100 CU. FT. ELEC. - KWH	GROSS AMOUNT	NET AMOUNT
ELEC	20	40845000	40700000	145000	583824.42	583824.42
ELEC	22	75311000	69691000	5620000		
ELEC	23	52193000	45684000	6509000		
				12274000		
				PRIOR BILL	512077.24	512077.24
					GROSS TOTAL	NET TOTAL
					1095901.66	1095901.66

GAS-SCHEDULE C

GAS UNITS USED x THERMS PER UNIT = THERMS BILLED

	CUSTOMER CHARGE	THERMS BY RATE BLOCKS & NET RATE PER THERM			Purchased Gas Adj.	GROSS AMOUNT	NET AMOUNT
RATES	$15.00	$.1630	$.0844		Total Therms @		
THERMS		10000					
AMOUNT $							

COUNTY SURCHARGE		
TOTAL		
STATE TAX		
CITY-COUNTY TAX		
TOTAL GAS		

ELECTRIC - SCHEDULE P

SEE ATTACHED PAGE FOR SCHEDULE P BILLING DATA

Brought Forward from Attached Page- TOTAL ELECTRIC	583819.42	583819.42
Prior Bill(s)	512077.24	512077.24
Rentals Incl. State Tax		
Dem. Hist. Rec. Chg.	5.00	5.00
TOTAL BILL	1095901.66	1095901.66

Federal Tax Identification # 52-0280210

M-7375 (7/94)

METER READING DATES

3/2/95 to 3/31/95

NEXT SCHEDULED READING DATE

5/1/95

DUE

5/2/95

BALTIMORE GAS & ELECTRIC COMPANY
P.O. BOX 64844
BALTIMORE, MARYLAND 21264-4844

5600 MARYLAND BLVD *SECT AA
U S DEPT OF THE ARMY
DAAD 05-70-C-0096
ATTN STEAP-FE-B
ABERDEEN PRV GRND MD 21005

Baltimore Gas & Electric Company

Pay Gross Total After

9726
6940
W C 5/2/95

Return This Stub With Payment

	METER NUMBER	METER READINGS-INCLUDING CONSTANT PRESENT	PREVIOUS	UNITS- GAS-100 CU. FT. ELEC. - KWH	GROSS AMOUNT	NET AMOUNT
ELEC	20	40990000	40845000	145000	503667.10	503667.10
ELEC	22	79417000	75311000	4106000		
ELEC	23	58273000	52193000	6080000		
				10331000		
					PRIOR BILL	
					GROSS TOTAL	NET TOTAL

GAS-SCHEDULE C

GAS UNITS USED x THERMS PER UNIT = THERMS BILLED

	CUSTOMER CHARGE	THERMS BY RATE BLOCKS & NET RATE PER THERM			Purchased Gas Adj.		
					Total Therms @	GROSS AMOUNT	NET AMOUNT
RATES	$15.00	$.1630	$.0844				
THERMS		10000					
AMOUNT $		.					

COUNTY SURCHARGE		
TOTAL		
STATE TAX		
CITY-COUNTY TAX		
TOTAL GAS		

ELECTRIC - SCHEDULE P

SEE ATTACHED PAGE FOR SCHEDULE P BILLING DATA

Brought Forward from Attached Page-		
TOTAL ELECTRIC	503662.10	503662.10
Prior Bill(s)		
Rentals Incl. State Tax		
Dem. Hist. Rec. Chg.	5.00	5.00
TOTAL BILL	503667.10	503667.10

Federal Tax Identification # 52-0280210

M-7375 (7/94)

METER READING DATES
3/31/95 TO 5/1/95
NEXT SCHEDULED READING DATE
6/1/95
DUE
5/26/95

BALTIMORE GAS & ELECTRIC COMPANY
P.O. BOX 64844
BALTIMORE, MARYLAND 21264-4844

5600 MARYLAND BLVD *SECT AA
U S DEPT OF THE ARMY
DAAD 05-70-C-0096
ATTN STEAP-FE-B
ABERDEEN PRV GRND MD 21005

Baltimore Gas & Electric Company
Pay Gross Total After
9726
6940
WC 5/26/95
Return This Stub With Payment

	METER NUMBER	METER READINGS-INCLUDING CONSTANT PRESENT	PREVIOUS	UNITS- GAS-100 CU. FT. ELEC. - KWH	GROSS AMOUNT	NET AMOUNT
ELEC	20	41135000	40990000	145000	466581.49	466581.49
ELEC	22	83226000	79417000	3809000		
ELEC	23	64231000	58273000	5958000		
				9912000		
					PRIOR BILL	
					GROSS TOTAL	NET TOTAL

GAS-SCHEDULE C

GAS UNITS USED x THERMS PER UNIT = THERMS BILLED

	CUSTOMER CHARGE	THERMS BY RATE BLOCKS & NET RATE PER THERM			Purchased Gas Adj.	GROSS AMOUNT	NET AMOUNT
RATES	$15.00	$.1630	$.0844		Total Therms @		
THERMS		10000					
AMOUNT $							

	GROSS AMOUNT	NET AMOUNT
COUNTY SURCHARGE		
TOTAL		
STATE TAX		
CITY-COUNTY TAX		
TOTAL GAS		

ELECTRIC - SCHEDULE P
SEE ATTACHED PAGE FOR SCHEDULE P BILLING DATA

	GROSS AMOUNT	NET AMOUNT
Brought Forward from Attached Page- TOTAL ELECTRIC	466576.49	466576.49
Prior Bill(s)		
Rentals Incl. State Tax		
Dem. Hist. Rec. Chg.	5.00	5.00
TOTAL BILL	466581.49	466581.49

Federal Tax Identification # 52-0280210

M-7375 (7/94)

METER READING DATES
5/1/95 to 6/1/95

NEXT SCHEDULED READING DATE
6/30/95

DUE
7/24/95

BALTIMORE GAS & ELECTRIC COMPANY
P.O. BOX 64844
BALTIMORE, MARYLAND 21264-4844

[redacted] MARYLAND [redacted] AA [redacted] Baltimore [redacted] Elec [redacted] mpan[redacted]

U S DEPT OF THE ARMY
DAAD 05-70-C-0096
ATTN STEAP-FE-B
ABERDEEN PRV GRND MD 21005

CORRECTED BILL

Pay Gross Total After

9726
6940 CORRECTED BILL
WC 7/24/95

Return This Stub With Payment

	METER NUMBER	METER READINGS-INCLUDING CONSTANT PRESENT	PREVIOUS	UNITS- GAS-100 CU. FT. ELEC. - KWH	GROSS AMOUNT	NET AMOUNT
ELEC	20	41135000	41135000	0	359991.79	359991.79
ELEC	22	86962000	83226000	3736000		
ELEC	23	70180000	64231000	5949000		
				9685000		

PRIOR BILL

GROSS TOTAL | NET TOTAL

GAS-SCHEDULE C

GAS UNITS USED x THERMS PER UNIT = THERMS BILLED

	CUSTOMER CHARGE	THERMS BY RATE BLOCKS & NET RATE PER THERM			Purchased Gas Adj.	GROSS AMOUNT	NET AMOUNT
RATES	$15.00	$.1630	$.0844		Total Therms @		
THERMS		10000					
AMOUNT $							

	GROSS AMOUNT	NET AMOUNT
COUNTY SURCHARGE		
TOTAL		
STATE TAX		
CITY-COUNTY TAX		
TOTAL GAS		

ELECTRIC - SCHEDULE P
SEE ATTACHED PAGE FOR SCHEDULE P BILLING DATA

Brought Forward from Attached Page-

	GROSS AMOUNT	NET AMOUNT
TOTAL ELECTRIC	467792.96	467792.96
Prior Bill(s)		
Rentals Incl. State Tax		
Dem. Hist. Rec. Chg.	5.00	5.00
TOTAL BILL	467797.79	467797.96

Federal Tax Identification # 52-0280210

M-7375 (7/94)

P.01

METER READING DATES
6/1/95 to 6/30/95
NEXT SCHEDULED READING DATE
8/2/95
DUE
8/3/95

BALTIMORE GAS & ELECTRIC COMPANY
P.O. BOX 64844
BALTIMORE, MARYLAND 21264-4844

5600 MARYLAND BLVD *SECT AA
U S DEPT OF THE ARMY
DAAD 05-70-C-0096
ATTN STEAP-FE-B
ABERDEEN PRV GRND MD 21005

Baltimore Gas & Electric Company
Pay Gross Total After
9726
6940
W C 8/3/95

Return This Stub With Payment

	METER NUMBER	METER READINGS-INCLUDING CONSTANT PRESENT	PREVIOUS	UNITS- GAS-100 CU. FT. ELEC. - KWH
ELEC	20	41135000	41135000	0
ELEC	22	91375000	86962000	4413000
ELEC	23	76470000	70180000	6290000
				10703000

	GROSS AMOUNT	NET AMOUNT
	767902.45	767902.45
PRIOR BILL		
GROSS TOTAL / NET TOTAL		

GAS-SCHEDULE C

	GAS UNITS USED	x THERMS PER UNIT	= THERMS BILLED

	CUSTOMER CHARGE	THERMS BY RATE BLOCKS & NET RATE PER THERM		
RATES	$15.00	.1587	$.0801.	
THERMS		10000		
AMOUNT $				

	GROSS AMOUNT	NET AMOUNT
Purchased Gas Adj.		
Total Therms @		
COUNTY SURCHARGE		
TOTAL		
STATE TAX		
CITY-COUNTY TAX		
TOTAL GAS		

OPTIONAL FORM 99 (7-90)

FAX TRANSMITTAL # of pages ▶ 21

To: Dwight E. Haldeman	From: Gary Saterman
Dept./Agency: Entech	Phone #: (410) 278-5738
Fax #: (610) 373-7537	Fax #: (410) 278-7914

NSN 7540-01-317-7368 5099-101 GENERAL SERVICES ADMINISTRATION

CHEDULE P
HEDULE P BILLING DATA

Brought Forward from Attached Page-

	GROSS AMOUNT	NET AMOUNT
TOTAL ELECTRIC	767897.45	767897.45
Prior Bill(s)		
Rentals Incl. State Tax		
Dem. Hist. Rec. Chg.	5.00	5.00
TOTAL BILL	767902.45	767902.45

Federal Tax Identification # 52-0280210
(7/95)

METER READING DATES
6/30/95 TO 8/2/95

NEXT SCHEDULED READING DATE
8/31/95

DATE
9/1/95

BALTIMORE GAS & ELECTRIC COMPANY
P.O. BOX 64844
BALTIMORE, MARYLAND 21264-4844

5600 MARYLAND BLVD *SECT AA
U S DEPT OF THE ARMY
DAAD 05-70-C-0096
ATTN STEAP-FE-B
ABERDEEN PRV GRND MD 21005

Baltimore Gas & Electric Company
Pay Gross Total After

9726
6940
WC 9/1/95
Return This Stub With Payment

	METER NUMBER	METER READINGS-INCLUDING CONSTANT PRESENT	PREVIOUS	UNITS- GAS-100 CU. FT. ELEC. - KWH	GROSS AMOUNT	NET AMOUNT
ELEC	20	41135000	41135000	0	844161.01	844161.01
ELEC	22	97921000	91375000	6546000		
ELEC	23	83604000	76470000	7134000		
				13680000		
				PRIOR BILL	768633.45	768633.45
					GROSS TOTAL	NET TOTAL
					1612794.46	1612794.46

GAS-SCHEDULE C

GAS UNITS USED x THERMS PER UNIT = THERMS BILLED

	CUSTOMER CHARGE	THERMS BY RATE BLOCKS & NET RATE PER THERM			Purchased Gas Adj.	GROSS AMOUNT	NET AMOUNT
RATES	$15.00	.1587	$.0801		Total Therms @		
THERMS		10000					
AMOUNT $							

	GROSS AMOUNT	NET AMOUNT
COUNTY SURCHARGE		
TOTAL		
STATE TAX		
CITY-COUNTY TAX		
TOTAL GAS		

ELECTRIC - SCHEDULE P

SEE ATTACHED PAGE FOR SCHEDULE P BILLING DATA

	GROSS AMOUNT	NET AMOUNT
Brought Forward from Attached Page- TOTAL ELECTRIC	844156.01	844156.01
Prior Bill(s)	768633.45	768633.45
Rentals Incl. State Tax		
Dem. Hist. Rec. Chg.	5.00	5.00
TOTAL BILL	1612794.46	1612794.46

Federal Tax Identification # 52-0280210

(7/95)

P.03

P. 10

METER READING DATES
8/2/95 TO 8/31/95

NEXT SCHEDULED READING DATE
10/2/95

DUE
9/28/95

BALTIMORE GAS & ELECTRIC COMPANY
P.O. BOX 64844
BALTIMORE, MARYLAND 21264-4844

5600 MARYLAND BLVD *SECT AA
U S DEPT OF THE ARMY
DAAD 05-70-C-0096
ATTN STEAP-FE-B
ABERDEEN PRV GRND MD 21005

Baltimore Gas & Electric Company
Pay Gross Total After

9726
6940 9/28/95
WC

Return This Stub With Payment

	METER NUMBER	METER READINGS-INCLUDING CONSTANT PRESENT	PREVIOUS	UNITS- GAS-100 CU. FT. ELEC. - KWH	GROSS AMOUNT	NET AMOUNT
ELEC	20	41135000	41135000	0		
ELEC	22	03531000	97921000	5610000	852446.87	852446.87
ELEC	23	90409000	83604000	6805000		
				12415000		

PRIOR BILL

GROSS TOTAL | NET TOTAL

GAS-SCHEDULE C

GAS UNITS USED	× THERMS PER UNIT	= THERMS BILLED

	CUSTOMER CHARGE	THERMS BY RATE BLOCKS & NET RATE PER THERM		
RATES	$15.00	.1587	$.0801	
THERMS		10000		
AMOUNTS				

	GROSS AMOUNT	NET AMOUNT
Purchased Gas Adj.		
Total Therms @		
COUNTY SURCHARGE		
TOTAL		
STATE TAX		
CITY-COUNTY TAX		
TOTAL GAS		

ELECTRIC - SCHEDULE P
SEE ATTACHED PAGE FOR SCHEDULE P BILLING DATA

Brought Forward from Attached Page-

	GROSS AMOUNT	NET AMOUNT
TOTAL ELECTRIC	852441.87	852441.87
Prior Bill(s)		
Rentals Incl. State Tax		
Dem. Hist. Rec. Chg.	5.00	5.00
TOTAL BILL	852446.87	852446.87

Federal Tax Identification # 52-0280210

M-7313 (7/95)

P. 14

METER READING DATES
8/31/95 to 10/2/95
NEXT SCHEDULED READING DATE
10/31/95
DUE
11/6/95

BALTIMORE GAS & ELECTRIC COMPANY
P.O. BOX 64844
BALTIMORE, MARYLAND 21264-4844

U S DEPT OF THE AR
DAAD 05-70-C-0096
ATTN STEAP-FE-B
ABERDEEN PRV GRND MD 21005

9726
6940
W C 11/6/95

Return This Stub With Payment

	METER NUMBER	METER READINGS-INCLUDING CONSTANT PRESENT	PREVIOUS	UNITS- GAS-100 CU. FT. ELEC. - KWH
				0
ELEC	20	41135000	41135000	5212000
ELEC	22	08743000	03531000	6018000
ELEC	23	96427000	90409000	11230000

	GROSS AMOUNT	NET AMOUNT
	749583.68	749583.68
PRIOR BILL		
GROSS TOTAL / NET TOTAL		

GAS-SCHEDULE C

	CUSTOMER CHARGE	GAS UNITS USED	x THERMS PER UNIT	= THERMS BILLED
		THERMS BY RATE BLOCKS & NET RATE PER THERM		
RATES	$15.00	.1587	$.0801	
THERMS		10000		
AMOUNT $				

Purchased Gas Adj.
Total Therms @

	GROSS AMOUNT	NET AMOUNT
COUNTY SURCHARGE		
TOTAL STATE TAX		
CITY-COUNTY TAX		
TOTAL GAS		

ELECTRIC - SCHEDULE P

SEE ATTACHED PAGE FOR SCHEDULE P BILLING DATA

Brought Forward from Attached Page-

	GROSS AMOUNT	NET AMOUNT
TOTAL ELECTRIC	749578.68	749578.
Prior Bill(s)		
Rentals Incl. State Tax		
Dem. Hist. Rec. Chg.	5.00	5.
TOTAL BILL	749583.68	749583.

Federal Tax Identification # 52-0280210

M-1315 - (7/95)

ATTACHMENT 8.8
NATURAL GAS BILLS

SUBJECT: DISTRIBUTION OF ELECTRIC CHARGES DATE: OCTOBER 1993

1. EDGEWOOD AREA	DATE	KWH	COST
1601 HANSON ROAD	09-24-93 TO 10-26-93	25	13.29
6860 BELARDI ROAD	08-27-93 TO 09-28-93	8,400	627.63
CARROLL ISLAND	09-13-93 TO 10-13-93	1,300	11.08
GRACES QUARTERS	10-06-93 TO 11-04-93	5,800	404.16
EDGEWOOD CONTRACT	10-01-93 TO 11-01-93	6,511,480	280,354.02
	EA SUB TOTALS	6,527,005	281,410.18

2. ABERDEEN AREA	DATE	KWH	COST
TOWER #5	09-16-93 TO 10-15-93	55	12.15
TOWER #6	09-16-93 TO 10-15-93	29	9.48
TOWER #7	09-17-93 TO 10-18-93	0	6.50
TOWER #8	09-17-93 TO 10-18-93	672	75.37
TOWER #9	09-17-93 TO 10-18-93	0	6.50
TOWER #12	09-20-93 TO 10-20-93	0	6.50
DEER CREEK	08-26-93 TO 09-28-93	142,700	8,999.69
301 OLDBAY LANE	09-27-93 TO 10-27-93	315	33.93
401 RICHARDS LANE	09-24-93 TO 10-26-93	0	11.50
PRIESTFORD ROAD	09-21-93 TO 10-20-93	10,500	1,091.65
300 N. PARADISE ROAD	09-27-93 TO 10-27-93	24,000	1,720.54
526 MICHEALSVILLE RD	09-17-93 TO 10-19-93	576	52.52
ABERDEEN CONTRACT	10-01-93 TO 11-01-93	9,558,000	455,563.84
TENNESSEE AVENUE	09-22-93 TO 10-21-93	12	7.74
ROUTE 297	09-24-93 TO 10-25-93	12	7.74
WATER & CONESTOGA R	09-09-93 TO 10-08-93	20	23.28
BAYVIEW BLVD	09-09-93 TO 10-08-93	20	11.47
GROVE POINT 55	09-07-93 TO 10-11-93	0	9.00
CRYSTAL BEACH 54	09-29-93 TO 10-27-93	0	9.00
	AA SUB TOTALS	9,736,911	467,658.40
	COMBINED EA & AA TOT	16,263,916	749,068.58

SUBJECT: DISTRIBUTION OF GAS CHARGES DATE: OCTOBER 1993

1. EDGEWOOD AREA	DATE	THERMS	COST
15 JACOB STREET	09-00-93 TO 10-00-93	0	0.00
140 HAWTHORNE DRIVE	09-28-93 TO 10-28-93	3,597	1,782.93
1570 STARK ROAD	09-28-93 TO 10-28-93	6,532	3,386.76
	EA SUB TOTALS	10,129	5,169.69

2. ABERDEEN AREA	DATE	THERMS	COST
1 CHESAPEAKE ROAD	09-24-93 TO 10-26-93	4,314	2,135.33
2600 ABERDEEN BLVD	09-24-93 TO 10-26-93	231	128.54
	AA SUB TOTALS	4,545	2,263.87
	COMBINED EA & AA TOT	14,674	7,433.56

SUBJECT: DISTRIBUTION OF ELECTRIC CHARGES DATE: NOVEMBER 1993

1. EDGEWOOD AREA	DATE	KWH	COST
1601 HANSON ROAD	10-26-93 TO 11-24-93	110	19.25
6860 BELARDI ROAD	09-28-93 TO 10-28-93	8,400	618.14
CARROLL ISLAND	10-13-93 TO 11-11-93	800	65.66
GRACES QUARTERS	11-04-93 TO 12-06-93	6,700	465.10
EDGEWOOD CONTRACT	11-01-93 TO 12-02-93	6,330,680	269,076.27
	EA SUB TOTALS	6,346,690	270,244.42

2. ABERDEEN AREA	DATE	KWH	COST
TOWER #5	10-15-93 TO 11-15-93	158	22.88
TOWER #6	10-15-93 TO 11-15-93	0	6.64
TOWER #7	10-18-93 TO 11-16-93	29	9.58
TOWER #8	10-18-93 TO 11-16-93	1,042	114.43
TOWER #9	10-18-93 TO 11-16-93	13	7.94
TOWER #12	10-20-93 TO 11-17-93	0	6.60
DEER CREEK	09-28-93 TO 10-27-93	105,200	7,973.68
301 OLDBAY LANE	10-27-93 TO 11-29-93	330	34.73
401 RICHARDS LANE	10-26-93 TO 11-24-93	0	11.50
PRIESTFORD ROAD	10-20-93 TO 11-18-93	13,950	1,336.30
300 N. PARADISE ROAD	10-27-93 TO 11-29-93	31,500	2,228.48
526 MICHEALSVILLE RD	10-19-93 TO 11-17-93	956	78.79
ABERDEEN CONTRACT	11-01-93 TO 12-02-93	10,469,000	491,974.38
TENNESSEE AVENUE	10-21-93 TO 11-19-93	12	7.74
ROUTE 297	10-25-93 TO 11-23-93	12	7.74
WATER & CONESTOGA R	10-08-93 TO 11-08-93	20	23.44
BAYVIEW BLVD	10-08-93 TO 11-08-93	20	11.46
GROVE POINT 55	10-11-93 TO 11-08-93	0	9.00
CRYSTAL BEACH 54	10-27-93 TO 11-26-93	0	9.00
	AA SUB TOTALS	10,622,242	503,874.31
	COMBINED EA & AA TOT	16,968,932	774,118.73

SUBJECT: DISTRIBUTION OF GAS CHARGES DATE: NOVEMBER 1993

1. EDGEWOOD AREA	DATE	THERMS	COST
15 JACOB STREET	09-28-93 TO 10-28-93	0	3,673.52
140 HAWTHORNE DRIVE	10-28-93 TO 11-30-93	2,490	1,258.26
1570 STARK ROAD	10-28-93 TO 11-30-93	15,110	7,515.67
	EA SUB TOTALS	17,600	12,447.45

2. ABERDEEN AREA	DATE	THERMS	COST
1 CHESAPEAKE ROAD	10-26-93 TO 11-24-93	6,721	3,370.00
2600 ABERDEEN BLVD	10-26-93 TO 11-24-93	346	187.76
	AA SUB TOTALS	7,067	3,557.76
	COMBINED EA & AA TOT	24,667	16,005.21

SUBJECT: DISTRIBUTION OF ELECTRIC CHARGES DATE: DECEMBER 1993

1. EDGEWOOD AREA	DATE	KWH	COST
1601 HANSON ROAD	11-24-93 TO 12-24-93	752	64.43
6860 BELARDI ROAD	10-28-93 TO 11-30-93	15,400	922.40
CARROLL ISLAND	11-11-93 TO 12-13-93	1,800	134.34
GRACES QUARTERS	12-06-93 TO 01-06-94	8,300	573.42
EDGEWOOD CONTRACT	12-02-93 TO 01-03-94	6,723,200	274,573.65
	EA SUB TOTALS	6,749,452	276,268.24

2. ABERDEEN AREA	DATE	KWH	COST
TOWER #5	11-15-93 TO 12-15-93	582	67.04
TOWER #6	11-15-93 TO 12-15-93	0	6.50
TOWER #7	11-16-93 TO 12-16-93	24	8.97
TOWER #8	11-16-93 TO 12-16-93	1,634	173.19
TOWER #9	11-16-93 TO 12-16-93	20	8.56
TOWER #12	11-17-93 TO 12-17-93	0	6.42
DEER CREEK	11-18-93 TO 12-20-93	121,100	8,543.81
301 OLDBAY LANE	11-29-93 TO 12-28-93	282	31.35
401 RICHARDS LANE	11-24-93 TO 12-24-93	17	12.70
PRIESTFORD ROAD	11-23-93 TO 12-16-93	15,600	1,381.23
300 N. PARADISE ROAD	11-29-93 TO 12-28-93	25,600	1,813.23
526 MICHEALSVILLE RD	11-17-93 TO 12-17-93	3468	256.77
ABERDEEN CONTRACT	12-02-93 TO 01-03-94	11,773,000	540,944.45
TENNESSEE AVENUE	11-23-93 TO 12-22-93	12	7.74
ROUTE 297	11-23-93 TO 12-22-93	12	7.86
WATER & CONESTOGA R	11-08-93 TO 12-09-93	20	11.61
BAYVIEW BLVD	11-08-93 TO 12-09-93	20	11.44
GROVE POINT 55	11-08-93 TO 12-06-93	0	9.00
CRYSTAL BEACH 54	11-26-93 TO 12-28-93	0	9.14
	AA SUB TOTALS	11,941,391	553,311.01
	COMBINED EA & AA TOT	18,690,843	829,579.25

cash summary

SUBJECT: DISTRIBUTION OF GAS CHARGES DATE: DECEMBER 1993

1. EDGEWOOD AREA	DATE	THERMS	COST
15 JACOB STREET	10-28-93 TO 11-30-93	947	559.10
140 HAWTHORNE DRIVE	11-30-93 TO 12-29-93	3,132	1,575.99
1570 STARK ROAD	11-30-93 TO 12-29-93	19,145	9,279.98
	EA SUB TOTALS	23,224	11,415.07

Sep

2. ABERDEEN AREA	DATE	THERMS	COST
1 CHESAPEAKE ROAD	11-24-93 TO 12-24-93	9,450	4,724.88
2600 ABERDEEN BLVD	11-24-93 TO 12-24-93	807	417.21
	AA SUB TOTALS	10,257	5,142.09
	COMBINED EA & AA TOT	33,481	16,557.16

SUBJECT: DISTRIBUTION OF ELECTRIC CHARGES DATE: JANUARY 1994

1. EDGEWOOD AREA	DATE	KWH	COST
1601 HANSON ROAD	12-24-93 TO 01-25-94	995	81.53
6860 BELARDI ROAD	11-30-93 TO 12-29-93	13,600	1,119.35
CARROLL ISLAND	12-13-93 TO 01-12-94	2,200	160.44
GRACES QUARTERS	01-06-94 TO 02-03-94	9,400	647.88
EDGEWOOD CONTRACT	01-03-94 TO 01-31-94	6,514,800	277,965.58
	EA SUB TOTALS	6,540,995	279,974.78

2. ABERDEEN AREA	DATE	KWH	COST
TOWER #5	12-15-93 TO 01-17-94	2,565	270.29
TOWER #6	12-15-93 TO 01-17-94	542	62.06
TOWER #7	12-16-93 TO 01-18-94	13	7.84
TOWER #8	12-16-93 TO 01-18-94	2,060	217.64
TOWER #9	12-16-93 TO 01-18-94	11	7.64
TOWER #12	12-17-93 TO 01-19-94	0	6.50
DEER CREEK	11-29-93 TO 12-29-93	56,100	5,939.77
301 OLDBAY LANE	12-28-93 TO 01-26-94	283	31.43
401 RICHARDS LANE	12-24-93 TO 01-25-94	56	15.44
PRIESTFORD ROAD	12-20-93 TO 01-24-94	20,580	1,581.57
300 N. PARADISE ROAD	12-28-93 TO 01-26-94	32,800	2,319.96
526 MICHAELSVILLE RD	12-17-93 TO 01-18-94	4550	331.74
ABERDEEN CONTRACT	01-03-94 TO 01-31-94	12,023,000	591,463.72
TENNESSEE AVENUE	12-20-93 TO 01-21-94	12	7.74
ROUTE 297	12-20-93 TO 01-24-94	12	7.74
WATER & CONESTOGA R	12-09-93 TO 01-11-94	20	11.44
BAYVIEW BLVD	12-09-93 TO 01-11-94	20	23.59
GROVE POINT 55	12-06-93 TO 01-10-94	0	9.14
CRYSTAL BEACH 54	12-28-93 TO 01-27-94	0	9.00
	AA SUB TOTALS	12,142,624	602,324.25
	COMBINED EA & AA TOT	18,683,619	882,299.03

SUBJECT: DISTRIBUTION OF GAS CHARGE DATE: JANUARY 1994

1. EDGEWOOD AREA	DATE	THERMS	COST
15 JACOB STREET	11-30-93 TO 12-29-93	1,193	616.91
140 HAWTHORNE DRIVE	12-29-93 TO 01-27-94	525	295.40
1570 STARK ROAD	12-29-93 TO 01-27-94	28,327	14,389.15
	EA SUB TOTALS	30,045	15,301.46

2. ABERDEEN AREA	DATE	THERMS	COST
1 CHESAPEAKE ROAD	11-24-93 TO 12-24-93	9,450	4,724.88
2600 ABERDEEN BLVD	12-24-93 TO 01-25-94	2,014	1,090.68
	AA SUB TOTALS	11,464	5,815.56
	COMBINED EA & AA TOT	41,509	21,117.02

SUBJECT: DISTRIBUTION OF ELECTRIC CHARGES DATE: FEBRUARY 1994

1. EDGEWOOD AREA	DATE	KWH	COST
1601 HANSON ROAD	01-25-94 TO 02-24-94	78	17.00
6860 BELARDI ROAD	12-29-93 TO 01-27-94	44,000	2,351.30
CARROLL ISLAND	01-12-94 TO 02-10-94	2,100	153.68
GRACES QUARTERS	02-03-94 TO 03-07-94	9,400	657.58
EDGEWOOD CONTRACT	01-31-94 TO 03-02-94	6,789,200	285,475.42
	EA SUB TOTALS	6,844,778	288,654.98

2. ABERDEEN AREA	DATE	KWH	COST
TOWER #5	01-17-94 TO 02-15-94	2,545	267.35
TOWER #6	01-17-94 TO 02-15-94	577	65.64
TOWER #7	01-18-94 TO 02-16-94	23	8.86
TOWER #8	01-18-94 TO 02-16-94	1,848	195.92
TOWER #9	01-18-94 TO 02-16-94	5	7.02
TOWER #12	01-19-94 TO 02-17-94	0	6.50
DEER CREEK	12-29-93 TO 01-28-94	91,600	8,305.01
301 OLDBAY LANE	01-26-94 TO 02-25-94	290	31.92
401 RICHARDS LANE	01-25-94 TO 02-24-94	2,861	212.86
PRIESTFORD ROAD	01-21-94 TO 02-16-94	21,960	1,963.43
300 N. PARADISE ROAD	01-26-94 TO 02-25-94	35,700	2,524.07
526 MICHAELSVILLE RD	01-18-94 TO 02-16-94	2449	187.38
ABERDEEN CONTRACT	01-31-94 TO 03-02-94	12,342,000	588,826.96
TENNESSEE AVENUE	01-21-94 TO 02-22-94	12	7.74
ROUTE 297	01-24-94 TO 02-24-94	12	7.74
WATER & CONESTOGA R	01-11-94 TO 02-10-94	20	11.93
BAYVIEW BLVD	01-11-94 TO 02-10-94	20	11.93
GROVE POINT 55	01-10-94 TO 02-10-94	0	6.14
CRYSTAL BEACH 54	01-27-94 TO 02-24-94	0	9.00
	AA SUB TOTALS	12,501,922	602,657.40
	COMBINED EA & AA TOT	19,346,700	891,312.38

SUBJECT: DISTRIBUTION OF GAS CHARGE DATE: FEBRUARY 1994

1. EDGEWOOD AREA	DATE	THERMS	COST
15 JACOB STREET	12-29-93 TO 01-27-94	1,286	701.85
140 HAWTHORNE DRIVE	01-27-94 TO 02-28-94	2,068	1,130.89
1570 STARK ROAD	01-27-94 TO 02-28-94	27,023	13,921.54
	EA SUB TOTALS	30,377	15,754.28

2. ABERDEEN AREA	DATE	THERMS	COST
1 CHESAPEAKE ROAD	12-24-93 TO 01-25-94	17,727	8,946.52
2600 ABERDEEN BLVD	01-25-94 TO 02-24-94	1,507	828.18
	AA SUB TOTALS	19,234	9,774.70
	COMBINED EA & AA TOT	49,611	25,528.98

SUBJECT: DISTRIBUTION OF ELECTRIC CHARGES DATE: MARCH 1994

1. EDGEWOOD AREA	DATE	KWH	COST
601 HANSON ROAD	02-24-94 TO 03-25-94	536	49.23
6860 BELARDI ROAD	01-27-94 TO 02-28-94	49,000	2,522.70
CARROLL ISLAND	02-10-94 TO 03-09-94	700	58.90
GRACES QUARTERS	03-07-94 TO 04-05-94	7,200	498.94
EDGEWOOD CONTRACT	03-02-94 TO 03-31-94	6,504,440	273,555.46
	EA SUB TOTALS	6,561,876	276,685.23

2. ABERDEEN AREA	DATE	KWH	COST
TOWER #5	02-15-94 TO 03-17-94	1,612	171.73
TOWER #6	02-15-94 TO 03-17-94	3,692	374.69
TOWER #7 (CORRECTED	12-16-93 TO 03-18-94	0	3.23
TOWER #8	02-16-94 TO 03-18-94	2,293	241.51
TOWER #9 (CORRECTED	12-16-93 TO 03-18-94	2	5.49
TOWER #12	02-17-94 TO 03-18-94	0	6.50
DEER CREEK	01-28-94 TO 03-01-94	137,900	10,495.37
301 OLDBAY LANE	02-25-94 TO 03-28-94	300	32.62
401 RICHARDS LANE	02-24-94 TO 03-25-94	1,060	89.29
PRIESTFORD ROAD	02-22-94 TO 03-22-94	17,660	1,692.67
300 N. PARADISE ROAD	02-25-94 TO 03-28-94	32,900	2,327.01
526 MICHAELSVILLE RD	02-16-94 TO 03-18-94	2233	168.66
ABERDEEN CONTRACT	03-02-94 TO 03-31-94	10,906,000	535,739.08
TENNESSEE AVENUE	02-22-94 TO 03-23-94	12	7.74
ROUTE 297	02-22-94 TO 03-25-94	12	7.86
WATER & CONESTOGA R	02-10-94 TO 03-11-94	20	12.50
BAYVIEW BLVD	02-10-94 TO 03-11-94	20	12.50
GROVE POINT 55	02-10-94 TO 03-08-94	0	9.00
CRYSTAL BEACH 54	02-24-94 TO 03-29-94	0	9.00
	AA SUB TOTALS	11,105,716	551,406.45
	COMBINED EA & AA TOT	17,667,592	828,091.68

SUBJECT: DISTRIBUTION OF GAS CHARGE DATE: FEBRUARY 1994

1. EDGEWOOD AREA	DATE	THERMS	COST
15 JACOB STREET	01-27-94 TO 02-28-94	1,406	773.68
140 HAWTHORNE DRIVE	02-28-94 TO 03-29-94	1,251	707.68
1570 STARK ROAD	02-28-94 TO 03-29-94	29,630	15,820.99
	EA SUB TOTALS	32,287	17,302.35

2. ABERDEEN AREA	DATE	THERMS	COST
CHESAPEAKE ROAD	01-25-94 TO 02-24-94	13,371	6,965.03
2600 ABERDEEN BLVD	02-24-94 TO 03-25-94	2,450	1,371.57
	AA SUB TOTALS	15,821	8,336.60
	COMBINED EA & AA TOT	48,108	25,638.95

SUBJECT: DISTRIBUTION OF ELECTRIC CHARGES DATE: APRIL 1994

1. EDGEWOOD AREA	DATE	KWH	COST
1601 HANSON ROAD	03-25-94 TO 04-25-94	5	11.86
6860 BELARDI ROAD	02-28-94 TO 03-29-94	12,600	1,135.73
CARROLL ISLAND	03-09-94 TO 04-12-94	1,200	93.62
GRACES QUARTERS	04-05-94 TO 05-04-94	5,900	410.94
EDGEWOOD CONTRACT	03-31-94 TO 04-29-94	5,831,240	252,806.29
	EA SUB TOTALS	5,850,945	254,458.44

2. ABERDEEN AREA	DATE	KWH	COST
TOWER #5	03-17-94 TO 04-18-94	116	18.40
TOWER #6	03-17-94 TO 04-18-94	29	9.48
TOWER #7	03-18-94 TO 04-19-94	0	6.50
TOWER #8	03-18-94 TO 04-19-94	1,018	110.84
TOWER #9	03-18-94 TO 04-19-94	0	6.50
TOWER #12	03-18-94 TO 04-20-94	0	6.50
DEER CREEK	03-01-94 TO 03-22-94	74,600	6,490.86
301 OLDBAY LANE	03-28-94 TO 04-26-94	304	32.90
401 RICHARDS LANE	03-25-94 TO 04-25-94	63	12.74
PRIESTFORD ROAD	03-22-94 TO 04-21-94	18,420	1,742.30
300 N. PARADISE ROAD	03-28-94 TO 04-26-94	21,900	1,552.83
526 MICHAELSVILLE RD	03-18-94 TO 04-18-94	543	49.72
ABERDEEN CONTRACT	03-31-94 TO 04-29-94	8,932,000	437,157.55
TENNESSEE AVENUE	03-23-94 TO 04-22-94	12	7.74
ROUTE 297	03-25-94 TO 04-26-94	12	7.74
WATER & CONESTOGA R	03-11-94 TO 04-12-94	20	12.50
BAYVIEW BLVD	03-11-94 TO 04-12-94	20	12.50
GROVE POINT 55	03-08-94 TO 04-12-94	0	9.00
CRYSTAL BEACH 54	03-29-94 TO 04-28-94	0	9.00
	AA SUB TOTALS	9,049,057	447,255.60
	COMBINED EA & AA TOT	14,900,002	701,714.04

SUBJECT: DISTRIBUTION OF GAS CHARGE DATE: APRIL 1994

1. EDGEWOOD AREA	DATE	THERMS	COST
15 JACOB STREET	02-28-94 TO 03-29-94	1,467	827.28
140 HAWTHORNE DRIVE	03-29-94 TO 04-27-94	720	419.06
1570 STARK ROAD	03-29-94 TO 04-27-94	458	285.64
	EA SUB TOTALS	2,645	1,531.98

2. ABERDEEN AREA	DATE	THERMS	COST
1 CHESAPEAKE ROAD	02-24-94 TO 03-25-94	11,674	6,347.32
2600 ABERDEEN BLVD	03-25-94 TO 04-25-94	736	428.04
	AA SUB TOTALS	12,410	6,775.36
	COMBINED EA & AA TOT	15,055	8,307.34

SUBJECT: DISTRIBUTION OF ELECTRIC CHARGES DATE: MAY 1994

1. EDGEWOOD AREA	DATE	KWH	COST
1601 HANSON ROAD	04-25-94 TO 05-24-94	49	14.95
6860 BELARDI ROAD	03-29-94 TO 04-27-94	14,000	828.22
CARROLL ISLAND	04-12-94 TO 05-11-94	600	51.24
GRACES QUARTERS	05-04-94 TO 06-06-94	6,200	585.25
EDGEWOOD CONTRACT	04-29-94 TO 05-29-94	~~7,280,0160~~	~~0.00~~ 313,648.37
	EA SUB TOTALS	~~20,849~~ 7,301,009	~~1,479.66~~ 310,128.03

2. ABERDEEN AREA	DATE	KWH	COST
TOWER #5	04-18-94 TO 05-17-94	37	10.30
TOWER #6	04-18-94 TO 05-17-94	27	9.28
TOWER #7	04-19-94 TO 05-18-94	1	3.38
TOWER #8	04-19-94 TO 05-18-94	686	76.81
TOWER #9	04-19-94 TO 05-17-94	0	1.01
TOWER #12	04-20-94 TO 05-19-94	0	6.50
DEER CREEK	03-22-94 TO 04-21-94	104,300	8,374.44
301 OLDBAY LANE	04-26-94 TO 05-25-94	267	30.30
401 RICHARDS LANE	04-25-94 TO 05-24-94	47	14.81
PRIESTFORD ROAD	04-21-94 TO 05-20-94	9,980	1,148.21
300 N. PARADISE ROAD	04-26-94 TO 05-25-94	20,000	1,442.34
526 MICHAELSVILLE RD	04-18-94 TO 05-17-94	262	29.94
ABERDEEN CONTRACT	04-29-94 TO 06-01-94	9,920,000	472,376.31
TENNESSEE AVENUE	04-22-94 TO 05-23-94	12	7.74
ROUTE 297	04-26-94 TO 05-25-94	12	7.74
WATER & CONESTOGA R	04-12-94 TO 05-11-94	20	12.50
BAYVIEW BLVD	04-12-94 TO 05-11-94	20	12.50
GROVE POINT 55	04-12-94 TO 05-10-94	0	9.00
CRYSTAL BEACH 54	04-28-94 TO 05-26-94	0	9.00
	AA SUB TOTALS	10,055,671	483,582.11
	COMBINED EA & AA TOT	~~10,076,520~~ 17,356,680	~~485,061.77~~ 798,710.14

SUBJECT: DISTRIBUTION OF GAS CHARGE DATE: MAY 1994

1. EDGEWOOD AREA	DATE	THERMS	COST
15 JACOB STREET	03-29-94 TO 04-27-94	690	402.23
140 HAWTHORNE DRIVE	04-27-94 TO 05-26-94	263	159.49
1570 STARK ROAD	04-27-94 TO 05-26-94	5,466	3,168.93
	EA SUB TOTALS	6,419	3,730.65

2. ABERDEEN AREA	DATE	THERMS	COST
1 CHESAPEAKE ROAD	03-25-94 TO 04-25-94	6,522	3,675.15
2600 ABERDEEN BLVD	04-25-94 TO 05-24-94	103	0.00
	AA SUB TOTALS	6,625	3,675.15
	COMBINED EA & AA TOT	13,044	7,405.80

SUBJECT: DISTRIBUTION OF ELECTRIC CHARGES DATE: JUNE 1994

1. EDGEWOOD AREA	DATE	KWH	COST
1601 HANSON ROAD	05-24-94 TO 06-24-94	58	17.08
6860 BELARDI ROAD	04-27-94 TO 05-26-94	9,800	683.65
CARROLL ISLAND	05-11-94 TO 06-13-94	400	48.52
GRACES QUARTERS	06-06-94 TO 07-06-94	5,800	539.76
EDGEWOOD CONTRACT	04-29-94 TO 06-01-94 ~~8,494,080~~	~~7,280,160~~	~~313,648.37~~ 568,295.88
	EA SUB TOTALS	~~7,296,218~~ 8,510,138	~~314,937.38~~ 569,584.89

2. ABERDEEN AREA	DATE	KWH	COST
TOWER #5	05-17-94 TO ~~06-16-94~~	35	10.29
TOWER #6	05-17-94 TO 06-16-94	32	9.97
TOWER #7	05-18-94 TO 06-17-94	0	6.50
TOWER #8	05-18-94 TO 06-17-94	450	55.09
TOWER #9	05-17-94 TO 06-17-94	0	6.50
TOWER #12	05-19-94 TO 06-20-94	0	6.50
DEER CREEK	04-21-94 TO 05-20-94	97,900	5,813.85
301 OLDBAY LANE	05-25-94 TO 06-27-94	383	48.37
401 RICHARDS LANE	05-24-94 TO 06-24-94	123	23.34
PRIESTFORD ROAD	05-20-94 TO 06-21-94	7,710	954.95
300 N. PARADISE ROAD	05-25-94 TO 06-27-94	23,900	2,311.88
526 MICHAELSVILLE RD	05-17-94 TO 06-17-94	191	29.89
ABERDEEN CONTRACT	06-01-94 TO 06-30-94	11,445,000	833,260.63
TENNESSEE AVENUE	05-23-94 TO 06-22-94	12	7.80
ROUTE 297	05-25-94 TO 06-24-94	12	7.80
WATER & CONESTOGA R	05-11-94 TO 06-10-94	20	12.50
BAYVIEW BLVD	05-11-94 TO 06-10-94	20	12.50
GROVE POINT 55	05-10-94 TO 06-08-94	0	9.00
CRYSTAL BEACH 54	05-26-94 TO 06-28-94	0	9.14
	AA SUB TOTALS	11,575,788	842,596.50
	COMBINED EA & AA TOT	~~18,872,006~~ 20,085,926	~~1,157,533.88~~ 1,412,181.39

SUBJECT: DISTRIBUTION OF GAS CHARGE DATE: JUNE 1994

1. EDGEWOOD AREA	DATE	THERMS	COST
15 JACOB STREET	04-27-94 TO 05-26-94	721	411.12
140 HAWTHORNE DRIVE	05-26-94 TO 06-28-94	392	210.33
1570 STARK ROAD	05-26-94 TO 06-28-94	3,668	2,034.21
	EA SUB TOTALS	4,781	2,655.66

2. ABERDEEN AREA	DATE	THERMS	COST
1 CHESAPEAKE ROAD	04-25-94 TO 05-24-94	3,940	2,179.64
2600 ABERDEEN BLVD	05-24-94 TO 06-24-94	933	0.00
	AA SUB TOTALS	4,873	2,179.64
	COMBINED EA & AA TOT	9,654	4,835.30

SUBJECT: DISTRIBUTION OF ELECTRIC CHARGES DATE: JULY 1994

1. EDGEWOOD AREA	DATE	KWH	COST
1601 HANSON ROAD	06-24-94 TO 07-26-94	69	18.05
6860 BELARDI ROAD	05-26-94 TO 06-28-94	13,499	702.02
CARROLL ISLAND	06-13-94 TO 07-13-94	1,321	57.78
GRACES QUARTERS	07-06-94 TO 08-04-94	5,700	530.66
EDGEWOOD CONTRACT	06-30-94 TO 08-01-94	10,233,560	626,265.31
EDGEWOOD COMMISSARY	06-30-94 TO 08-01-94	(2,880)	(176.25)
	EA SUB TOTALS	10,251,269	627,397.57

2. ABERDEEN AREA	DATE	KWH	COST
TOWER #5	06-16-94 TO 07-18-94	39	10.72
TOWER #6	06-16-94 TO 07-18-94	29	9.64
TOWER #7	06-17-94 TO 07-19-94	0	6.50
TOWER #8	06-17-94 TO 07-19-94	576	68.69
TOWER #9	06-17-94 TO 07-19-94	0	6.50
TOWER #12	06-20-94 TO 07-20-94	0	6.50
DEER CREEK	05-20-94 TO 06-21-94	120,000	8,562.19
301 OLDBAY LANE	06-27-94 TO 07-27-94	524	61.17
401 RICHARDS LANE	06-24-94 TO 07-26-94	36	14.92
PRIESTFORD ROAD	06-21-94 TO 07-21-94	6,900	820.97
300 N. PARADISE ROAD	06-27-94 TO 07-27-94	20,600	1,964.17
526 MICHAELSVILLE RD	06-17-94 TO 07-19-94	215	32.34
ABERDEEN CONTRACT	06-30-94 TO 08-01-94	12,841,000	865,233.70
TENNESSEE AVENUE	06-22-94 TO 07-22-94	12	7.80
ROUTE 297	06-24-94 TO 07-26-94	12	7.80
WATER & CONESTOGA RDS	06-10-94 TO 07-12-94	20	12.50
BAYVIEW BLVD	06-10-94 TO 07-12-94	20	12.50
GROVE POINT 55	06-08-94 TO 07-11-94	0	9.00
CRYSTAL BEACH 54	06-28-94 TO 07-27-94	0	9.00
ABERDEEN COMMISSARY	06-01-94 TO 08-01-94	(115,215)	(7,763.30)
	AA SUB TOTALS	12,874,768	869,093.31
	COMBINED EA & AA TOT	23,126,037	1,496,490.88

SUBJECT: DISTRIBUTION OF GAS CHARGES DATE: JULY 1994

1. EDGEWOOD AREA	DATE	THERMS	COST
15 JACOB STREET	05-26-94 TO 06-28-94	1,349	685.15
140 HAWTHORNE DRIVE	06-28-94 TO 07-28-94	1,031	511.74
1570 STARK ROAD	06-28-94 TO 07-28-94	2,747	1,405.43
	EA SUB TOTALS	5,127	2,602.32

2. ABERDEEN AREA	DATE	THERMS	COST
1 CHESAPEAKE ROAD	05-24-94 TO 06-24-94	2,507	1,300.63
2600 ABERDEEN BLVD	06-24-94 TO 07-26-94	348	0.00 (credit)
	AA SUB TOTALS	2,855	1,300.63
	COMBINED EA & AA TOT	7,982	3,902.95

SUBJECT: DISTRIBUTION OF ELECTRIC CHARGES DATE: AUGUST 1994

1. EDGEWOOD AREA	DATE	KWH	COST
1601 HANSON ROAD	07-26-94 TO 08-25-94	2	11.70
6860 BELARDI ROAD	06-28-94 TO 07-28-94	11,800	1,331.99
CARROLL ISLAND	07-13-94 TO 08-11-94	1,300	129.91
GRACES QUARTERS	08-04-94 TO 09-06-94	5,700	530.66
EDGEWOOD CONTRACT	08-01-94 TO 08-31-94	8,776,240	566,042.12
EDGEWOOD COMMISSARY	08-01-94 TO 08-31-94	(8,160)	(526.30)
	EA SUB TOTALS	8,786,882	567,520.08

2. ABERDEEN AREA	DATE	KWH	COST
TOWER #5	07-18-94 TO 08-16-94	29	9.64
TOWER #6	07-18-94 TO 08-16-94	30	9.75
TOWER #7	07-19-94 TO 08-17-94	0	6.50
TOWER #8	07-19-94 TO 08-17-94	467	56.92
TOWER #9	07-19-94 TO 08-17-94	0	6.50
TOWER #12	07-20-94 TO 08-18-94	0	6.50
DEER CREEK	06-21-94 TO 07-21-94	114,600	8,676.10
301 OLDBAY LANE	07-27-94 TO 08-26-94	268	36.91
401 RICHARDS LANE	07-26-94 TO 08-25-94	40	15.30
PRIESTFORD ROAD	07-21-94 TO 08-19-94	8,130	976.87
300 N. PARADISE ROAD	07-27-94 TO 08-26-94	19,700	1,878.87
526 MICHAELSVILLE RD	07-19-94 TO 08-17-94	174	28.46
ABERDEEN CONTRACT	08-01-94 TO 08-31-94	11,551,000	813,878.92
TENNESSEE AVENUE	07-22-94 TO 08-22-94	12	7.80
ROUTE 297	07-26-94 TO 08-24-94	12	7.80
WATER & CONESTOGA RDS	07-12-94 TO 08-10-94	20	12.50
BAYVIEW BLVD	07-12-94 TO 08-10-94	20	12.50
GROVE POINT 55	07-11-94 TO 08-09-94	0	9.00
CRYSTAL BEACH 54	07-27-94 TO 08-29-94	0	9.00
ABERDEEN COMMISSARY	08-01-94 TO 08-31-94	(244,228)	(17,208.30)
	AA SUB TOTALS	11,450,274	808,437.54
	COMBINED EA & AA TOT	20,237,156	1,375,957.62

SUBJECT: DISTRIBUTION OF GAS CHARGES DATE: AUGUST 1994

1. EDGEWOOD AREA	DATE	THERMS	COST	
15 JACOB STREET	11-30-94 TO 07-28-94	2,915	0.00	(credit)
140 HAWTHORNE DRIVE	06-28-94 TO 08-29-94	1,043	0.00	(credit)
1570 STARK ROAD	07-28-94 TO 08-29-94	3,108	1,573.70	
	EA SUB TOTALS	7,066	1,573.70	

2. ABERDEEN AREA	DATE	THERMS	COST	
1 CHESAPEAKE ROAD	06-24-94 TO 07-26-94	2,056	1,005.58	
2600 ABERDEEN BLVD	07-26-94 TO 08-25-94	310	41.49	(credit)
	AA SUB TOTALS	2,366	1,047.07	
	COMBINED EA & AA TOT	9,432	2,620.77	

SUBJECT: DISTRIBUTION OF ELECTRIC CHARGES DATE: SEPTEMBER 1994

1. EDGEWOOD AREA	DATE	KWH	COST	
1601 HANSON ROAD	08-25-94 TO 09-26-94	66	17.76	
6860 BELARDI ROAD	07-28-94 TO 08-29-94	11,800	1,306.39	
CARROLL ISLAND	08-11-94 TO 09-13-94	1,500	148.13	
GRACES QUARTERS	09-06-94 TO 10-06-94	5,800	395.69	
EDGEWOOD CONTRACT	08-01-94 TO 10-03-94	8,434,600	516,865.11	
EDGEWOOD COMMISSARY	08-01-94 TO 08-31-94	(5,760)	(352.97)	
	EA SUB TOTALS	8,448,006	518,380.11	

2. ABERDEEN AREA	DATE	KWH	COST	
TOWER #5	08-16-94 TO 09-15-94	31	9.86	
TOWER #6	08-16-94 TO 09-15-94	98	17.09	
TOWER #7	08-17-94 TO 09-16-94	0	0.00	(credit)
TOWER #8	08-17-94 TO 09-16-94	396	49.25	
TOWER #9	08-17-94 TO 09-16-94	0	6.50	
TOWER #12	08-18-94 TO 09-19-94	0	6.50	
DEER CREEK	07-21-94 TO 08-19-94	95,000	8,221.88	
301 OLDBAY LANE	08-26-94 TO 09-27-94	380	47.52	
401 RICHARDS LANE	08-25-94 TO 09-27-94	20	13.40	
PRIESTFORD ROAD	08-19-94 TO 09-21-94	8,990	1,088.90	
300 N. PARADISE ROAD	08-26-94 TO 09-27-94	22,900	2,182.20	
526 MICHAELSVILLE RD	08-17-94 TO 09-19-94	339	43.64	
ABERDEEN CONTRACT	08-31-94 TO 10-03-94	11,136,000	744,529.83	
TENNESSEE AVENUE	08-22-94 TO 09-21-94	12	7.80	
ROUTE 297	08-24-94 TO 09-21-94	12	7.80	
WATER & CONESTOGA RDS	08-10-94 TO 09-09-94	20	12.50	
BAYVIEW BLVD	08-10-94 TO 09-09-94	20	12.50	
GROVE POINT 55	08-09-94 TO 09-12-94	0	9.00	
CRYSTAL BEACH 54	08-29-94 TO 09-28-94	0	9.00	
ABERDEEN COMMISSARY	08-31-94 TO 10-03-94	(250,221)	(16,729.28)	
	AA SUB TOTALS	11,013,997	739,545.89	
	COMBINED EA & AA TOT	19,462,003	1,257,926.00	

SUBJECT: DISTRIBUTION OF GAS CHARGES DATE: SEPTEMBER 1994

1. EDGEWOOD AREA	DATE	THERMS	COST	
15 JACOB STREET	07-28-94 TO 08-29-94	714	0.00	(credit)
140 HAWTHORNE DRIVE	08-29-94 TO 09-28-94	5,078	1,925.51	
1570 STARK ROAD	08-29-94 TO 09-28-94	2,448	1,226.67	
	EA SUB TOTALS	8,240	3,152.18	

2. ABERDEEN AREA	DATE	THERMS	COST	
1 CHESAPEAKE ROAD	07-26-94 TO 08-25-94	2,001	970.28	
2600 ABERDEEN BLVD	08-25-94 TO 09-26-94	126	0.00	(credit)
	AA SUB TOTALS	2,127	970.28	
	COMBINED EA & AA TOT	10,367	4,122.46	

SUBJECT: DISTRIBUTION OF ELECTRIC CHARGES DATE: OCTOBER 1994

1. EDGEWOOD AREA	DATE	KWH	COST
1601 HANSON ROAD	09-26-94 TO 10-26-94	189	24.53
6860 BELARDI ROAD	08-29-94 TO 09-28-94	22,000	1,835.29
CARROLL ISLAND	09-13-94 TO 10-13-94	1,500	110.87
1900 NUTTAL AVE	09-28-94 TO 10-28-94	259,420	69,472.04
GRACES QUARTERS	10-06-94 TO 11-04-94	6,700	450.69
EDGEWOOD CONTRACT	10-03-94 TO 11-01-94	5,955,120	249,230.33
EDGEWOOD COMMISSARY	10-03-94 TO 11-01-94	(1,920)	(80.35)
	EA SUB TOTALS	6,243,009	321,043.40

2. ABERDEEN AREA	DATE	KWH	COST
TOWER #5	09-15-94 TO 10-14-94	36	10.20
TOWER #6	09-15-94 TO 10-14-94	360	43.40
TOWER #7	04-19-94 TO 10-17-94	0	6.61
TOWER #8	09-16-94 TO 10-17-94	432	50.79
TOWER #9	09-16-94 TO 10-17-94	0	6.50
TOWER #12	09-19-94 TO 10-18-94	0	6.50
DEER CREEK	08-19-94 TO 09-21-94	108,600	6,217.25
301 OLDBAY LANE	09-27-94 TO 10-27-94	322	33.69
401 RICHARDS LANE	09-26-94 TO 10-26-94	44	14.54
PRIESTFORD ROAD	09-21-94 TO 10-20-94	8,960	1,056.59
300 N. PARADISE ROAD	09-27-94 TO 10-27-94	21,400	1,486.39
526 MICHAELSVILLE RD	09-19-94 TO 10-19-94	144	21.43
ABERDEEN CONTRACT	10-03-94 TO 11-01-94	8,500,000	402,945.13
TENNESSEE AVENUE	09-21-94 TO 10-20-94	12	7.74
ROUTE 297	09-23-94 TO 10-24-94	12	7.74
WATER & CONESTOGA RDS	09-09-94 TO 10-11-94	20	12.50
BAYVIEW BLVD	09-09-94 TO 10-11-94	20	12.50
GROVE POINT 55	10-11-94 TO 11-09-94	0	18.14
CRYSTAL BEACH 54	09-28-94 TO 10-28-94	0	9.00
ABERDEEN COMMISSARY	10-03-94 TO 11-01-94	(248,401)	(11,775.45)
	AA SUB TOTALS	8,391,961	400,191.19
	COMBINED EA & AA TOT	14,634,970	721,234.59

SUBJECT: DISTRIBUTION OF GAS CHARGES DATE: OCTOBER 1994

1. EDGEWOOD AREA	DATE	THERMS	COST	
15 JACOB STREET	08-29-94 TO 09-28-94	3,311	0.00	(credit)
140 HAWTHORNE DRIVE	09-28-94 TO 10-24-94	1,039	0.00	(credit)
1570 STARK ROAD	09-28-94 TO 10-28-94	2,512	1,173.93	
	EA SUB TOTALS	6,862	1,173.93	

2. ABERDEEN AREA	DATE	THERMS	COST	
1 CHESAPEAKE ROAD	08-25-94 TO 09-26-94	2,480	1,246.87	
2600 ABERDEEN BLVD	09-26-94 TO 10-26-94	132	0.00	(credit)
	AA SUB TOTALS	2,612	1,246.87	
	COMBINED EA & AA TOT	9,474	2,420.80	

SUBJECT: DISTRIBUTION OF ELECTRIC CHARGES DATE: NOVEMBER 1994

1. EDGEWOOD AREA	DATE	KWH	COST
1601 HANSON ROAD	10-26-94 TO 11-28-94	30	13.55
6860 BELARDI ROAD	09-28-94 TO 10-28-94	8,400	593.74
CARROLL ISLAND	10-13-94 TO 11-11-94	1,500	109.83
1900 NUTTAL AVE	10-28-94 TO 11-30-94	69,440	4,361.08
GRACES QUARTERS	11-04-94 TO 12-06-94	7,800	522.79
EDGEWOOD CONTRACT	11-01-94 TO 12-03-94	6,515,120	269,177.72
EDGEWOOD COMMISSARY	11-01-94 TO 12-03-94	(4,320)	(178.49)
	EA SUB TOTALS	6,597,970	274,600.22

2. ABERDEEN AREA	DATE	KWH	COST
TOWER #5	10-14-94 TO 11-14-94	38	10.41
TOWER #6	10-14-94 TO 11-14-94	743	82.65
TOWER #7	10-17-94 TO 11-15-94	0	6.50
TOWER #8	10-17-94 TO 11-15-94	674	75.58
TOWER #9	10-17-94 TO 11-15-94	0	6.50
TOWER #12	10-18-94 TO 11-16-94	0	6.50
DEER CREEK	09-21-94 TO 10-20-94	90,400	6,130.13
301 OLDBAY LANE	10-27-94 TO 11-29-94	337	34.49
401 RICHARDS LANE	10-26-94 TO 11-28-94	20	12.87
PRIESTFORD ROAD	10-20-94 TO 11-18-94	10,480	1,141.58
300 N. PARADISE ROAD	10-27-94 TO 11-29-94	29,200	2,002.94
526 MICHAELSVILLE RD	10-19-94 TO 11-17-94	1027	81.55
ABERDEEN CONTRACT	11-01-94 TO 12-02-94	9,595,000	404,202.93
TENNESSEE AVENUE	10-20-94 TO 11-18-94	12	7.74
ROUTE 297	10-24-94 TO 11-22-94	12	7.74
WATER & CONESTOGA RDS	10-11-94 TO 11-08-94	20	12.52
BAYVIEW BLVD	10-11-94 TO 11-08-94	20	12.52
GROVE POINT 55	11-09-94 TO 12-11-94	0	0.00
CRYSTAL BEACH 54	10-28-94 TO 11-28-94	0	9.14
ABERDEEN COMMISSARY	11-01-94 TO 12-02-94	(191,134)	(8,051.71)
	AA SUB TOTALS	9,536,849	405,792.58
	COMBINED EA & AA TOT	16,134,819	680,392.80

SUBJECT: DISTRIBUTION OF GAS CHARGES DATE: NOVEMBER 1994

1. EDGEWOOD AREA	DATE	THERMS	COST	
15 JACOB STREET	09-28-94 TO 10-28-94	4,304	1,079.35	
140 HAWTHORNE DRIVE	10-14-94 TO 11-30-94	4,760	0.00	(credit)
1570 STARK ROAD	10-28-94 TO 11-30-94	17,054	6,476.29	
	EA SUB TOTALS	26,118	7,555.64	

2. ABERDEEN AREA	DATE	THERMS	COST
1 CHESAPEAKE ROAD	09-26-94 TO 11-28-94	6,940	4,451.79
2600 ABERDEEN BLVD	10-26-94 TO 11-28-94	375	162.20
	AA SUB TOTALS	7,315	4,613.99
	COMBINED EA & AA TOT	33,433	12,169.63

SUBJECT: DISTRIBUTION OF ELECTRIC CHARGES DATE: DECEMBER 1994

1. EDGEWOOD AREA	DATE	KWH	COST	
1601 HANSON ROAD	11-28-94 TO 12-27-94	230	27.19	
6860 BELARDI ROAD	08-29-94 TO 11-18-94	13,883	0.00	credit
CARROLL ISLAND	11-11-94 TO 12-13-94	1,600	116.38	
1900 NUTTAL AVE	11-30-94 TO 12-29-94	63,420	3,779.52	
GRACES QUARTERS	12-06-94 TO 01-06-95	7,700	516.24	
EDGEWOOD CONTRACT	12-03-94 TO 01-03-95	6,378,280	258,539.19	
EDGEWOOD COMMISSARY	12-03-94 TO 01-03-95	0	0.00	
	EA SUB TOTALS	6,465,113	262,978.52	

2. ABERDEEN AREA	DATE	KWH	COST
TOWER #5	11-14-94 TO 12-14-94	150	22.05
TOWER #6	11-14-94 TO 12-14-94	1,649	176.76
TOWER #7	11-15-94 TO 12-15-94	0	6.60
TOWER #8	11-15-94 TO 12-15-94	1,168	127.35
TOWER #9	11-15-94 TO 12-15-94	0	6.60
TOWER #12	11-16-94 TO 12-15-94	0	6.50
DEER CREEK	10-20-94 TO 11-18-94	93,200	7,316.72
301 OLDBAY LANE	11-29-94 TO 12-28-94	292	31.42
401 RICHARDS LANE	11-28-94 TO 12-27-94	19	12.80
PRIESTFORD ROAD	11-18-94 TO 12-20-94	14,520	1,537.15
300 N. PARADISE ROAD	11-29-94 TO 12-28-94	26,500	1,848.79
526 MICHAELSVILLE RD	11-17-94 TO 12-19-94	430	40.83
ABERDEEN CONTRACT	12-02-94 TO 01-03-95	10,801,000	492,221.03
TENNESSEE AVENUE	11-18-94 TO 12-19-94	12	7.74
ROUTE 297	11-22-94 TO 12-21-94	12	7.74
WATER & CONESTOGA RDS	11-08-94 TO 12-09-94	20	12.55
BAYVIEW BLVD	11-08-94 TO 12-09-94	20	12.55
GROVE POINT 55	11-09-94 TO 12-09-94	0	9.00
CRYSTAL BEACH 54	11-28-94 TO 12-28-94	0	9.14
ABERDEEN COMMISSARY	12-02-94 TO 01-03-95	(209,082)	(9,528.28)
	AA SUB TOTALS	10,729,910	493,885.04
	COMBINED EA & AA TOT	17,195,023	756,863.56

SUBJECT: DISTRIBUTION OF GAS CHARGES DATE: DECEMBER 1994

1. EDGEWOOD AREA	DATE	THERMS	COST	
15 JACOB STREET	08-29-94 TO 10-18-94	6,564	0.00	(credit)
140 HAWTHORNE DRIVE	11-30-94 TO 12-29-94	2,836	806.16	
1570 STARK ROAD	11-30-94 TO 12-29-94	16,554	7,327.90	
	EA SUB TOTALS	25,954	8,134.06	

2. ABERDEEN AREA	DATE	THERMS	COST
1 CHESAPEAKE ROAD	11-28-94 TO 12-27-94	8,622	3,910.42
2600 ABERDEEN BLVD	11-28-94 TO 12-27-94	853	400.39
	AA SUB TOTALS	9,475	4,310.81
	COMBINED EA & AA TOT	35,429	12,444.87

SUBJECT: DISTRIBUTION OF ELECTRIC CHARGES DATE: JANUARY 1995

1. EDGEWOOD AREA	DATE	KWH	COST
1601 HANSON ROAD	12-27-94 TO 01-25-95	0	11.50
6860 BELARDI ROAD	11-18-94 TO 12-29-94	20,800	565.15
CARROLL ISLAND	12-13-94 TO 01-12-95	1,500	109.83
1900 NUTTAL AVE	12-29-94 TO 01-27-95	68,180	4,100.62
GRACES QUARTERS	01-06-95 TO 02-03-95	7,900	529.35
EDGEWOOD CONTRACT	01-03-95 TO 01-31-95	6,260,720	263,634.70
EDGEWOOD COMMISSARY	01-03-95 TO 01-31-95	0	0.00
	EA SUB TOTALS	6,359,100	268,951.15

2. ABERDEEN AREA	DATE	KWH	COST
TOWER #5	12-14-94 TO 01-16-95	353	42.68
TOWER #6	12-14-94 TO 01-16-95	2,330	245.32
TOWER #7	12-15-94 TO 01-17-95	0	6.50
TOWER #8	12-15-94 TO 01-17-95	1,235	133.09
TOWER #9	12-15-94 TO 01-17-95	0	6.50
TOWER #12	12-15-94 TO 01-18-95	0	6.50
DEER CREEK	11-18-94 TO 12-20-94	95,005	6,437.79
301 OLDBAY LANE	12-28-94 TO 01-26-95	213	26.03
401 RICHARDS LANE	12-27-94 TO 01-25-95	935	75.28
PRIESTFORD ROAD	12-20-94 TO 01-23-95	12,850	1,278.11
300 N. PARADISE ROAD	12-28-94 TO 01-26-95	26,600	1,825.62
526 MICHAELSVILLE RD	12-19-94 TO 01-18-95	578	50.92
ABERDEEN CONTRACT	01-03-95 TO 01-31-95	10,637,000	512,077.24
TENNESSEE AVENUE	12-19-94 TO 01-20-95	12	7.74
ROUTE 297	12-21-94 TO 01-23-95	12	7.74
WATER & CONESTOGA RDS	12-09-94 TO 01-11-95	20	12.54
BAYVIEW BLVD	12-09-94 TO 01-11-95	20	12.54
GROVE POINT 55	12-09-94 TO 01-11-95	0	9.14
CRYSTAL BEACH 54	12-28-94 TO 01-27-95	0	9.00
ABERDEEN COMMISSARY	01-03-95 TO 01-31-95	(191,784)	(9,232.67)
	AA SUB TOTALS	10,585,379	513,037.61
	COMBINED EA & AA TOT	16,944,479	781,988.76

SUBJECT: DISTRIBUTION OF GAS CHARGES DATE: JANUARY 1995

1. EDGEWOOD AREA	DATE	THERMS	COST
15 JACOB STREET	11-18-94 TO 10-18-94	2,703	762.00
140 HAWTHORNE DRIVE	12-29-94 TO 01-27-95	2,131	985.24
1570 STARK ROAD	12-29-94 TO 01-27-95	19,958	8,735.14
	EA SUB TOTALS	24,792	10,482.38

2. ABERDEEN AREA	DATE	THERMS	COST
1 CHESAPEAKE ROAD	12-27-94 TO 01-25-95	11,650	5,189.56
2600 ABERDEEN BLVD	12-27-94 TO 01-25-95	1,117	523.57
	AA SUB TOTALS	12,767	5,713.13
	COMBINED EA & AA TOT	37,559	16,195.51

SUBJECT: DISTRIBUTION OF ELECTRIC CHARGES DATE: FEBRUARY 1995

1. EDGEWOOD AREA	DATE	KWH	COST
1601 HANSON ROAD	01-25-95 TO 02-24-95	3	11.71
6860 BELARDI ROAD	12-29-94 TO 01-27-95	19,000	1,162.75
CARROLL ISLAND	01-12-95 TO 02-10-95	1,500	109.83
1900 NUTTAL AVE	01-27-95 TO 02-28-95	78,540	4,482.59
GRACES QUARTERS	02-03-95 TO 03-07-95	9,100	608.01
EDGEWOOD CONTRACT	01-31-95 TO 03-02-95	6,939,440	284,606.91
EDGEWOOD COMMISSARY	01-31-95 TO 03-02-95	0	0.00
	EA SUB TOTALS	7,047,583	290,981.80

2. ABERDEEN AREA	DATE	KWH	COST
TOWER #5	01-16-95 TO 02-14-95	1,307	138.87
TOWER #6	01-16-95 TO 02-14-95	2,815	291.59
TOWER #7	01-17-95 TO 02-15-95	0	6.50
TOWER #8	01-17-95 TO 02-15-95	1,202	128.23
TOWER #9	01-17-95 TO 02-15-95	0	6.50
TOWER #12	01-18-95 TO 02-16-95	0	6.50
DEER CREEK	12-20-94 TO 01-25-95	117,100	7,048.94
301 OLDBAY LANE	01-26-95 TO 02-27-95	245	28.21
401 RICHARDS LANE	01-25-95 TO 02-24-95	1,284	99.08
PRIESTFORD ROAD	01-23-95 TO 02-21-95	12,800	1,413.85
300 N. PARADISE ROAD	01-26-95 TO 02-27-95	30,500	2,091.61
526 MICHAELSVILLE RD	01-18-95 TO 02-16-95	687	58.36
ABERDEEN CONTRACT	01-31-95 TO 03-02-95	12,274,000	583,824.42
TENNESSEE AVENUE	01-20-95 TO 02-21-95	12	7.73
ROUTE 297	01-23-95 TO 02-23-95	12	7.73
WATER & CONESTOGA RDS	01-11-95 TO 02-09-95	20	13.18
BAYVIEW BLVD	01-11-95 TO 02-09-95	20	12.98
GROVE POINT 55	01-11-95 TO 02-09-95	0	9.00
CRYSTAL BEACH 54	01-27-95 TO 02-27-95	0	9.00
ABERDEEN COMMISSARY	01-31-95 TO 03-02-95	(209,842)	(9,981.35)
	AA SUB TOTALS	12,232,162	585,220.93
	COMBINED EA & AA TOT	19,279,745	876,202.73

SUBJECT: DISTRIBUTION OF GAS CHARGES DATE: FEBRUARY 1995

1. EDGEWOOD AREA	DATE	THERMS	COST
15 JACOB STREET	12-29-94 TO 01-27-95	2,354	1,086.78
140 HAWTHORNE DRIVE	01-27-95 TO 02-28-95	3,133	1,447.09
1570 STARK ROAD	01-27-95 TO 02-28-95	26,124	11,223.38
	EA SUB TOTALS	31,611	13,757.25

2. ABERDEEN AREA	DATE	THERMS	COST
1 CHESAPEAKE ROAD	01-25-95 TO 02-24-95	17,846	7,555.71
2600 ABERDEEN BLVD	01-25-95 TO 02-24-95	1,051	495.41
	AA SUB TOTALS	18,897	8,051.12
	COMBINED EA & AA TOT	50,508	21,808.37

SUBJECT: DISTRIBUTION OF ELECTRIC CHARGES DATE: MARCH 1995

1. EDGEWOOD AREA	DATE	KWH	COST
1601 HANSON ROAD	02-24-95 TO 03-27-95	5	11.85
6860 BELARDI ROAD	01-27-95 TO 02-28-95	25,400	1,373.50
CARROLL ISLAND	02-10-95 TO 03-14-95	800	63.94
1900 NUTTAL AVE	02-28-95 TO 03-29-95	59,640	3,742.74
GRACES QUARTERS	03-07-95 TO 04-05-95	6,100	411.36
EDGEWOOD CONTRACT	03-02-95 TO 03-31-95	6,396,000	266,629.07
EDGEWOOD COMMISSARY	03-02-95 TO 03-31-95	0	0.00
	EA SUB TOTALS	6,487,945	272,232.46

2. ABERDEEN AREA	DATE	KWH	COST
TOWER #5	02-14-95 TO 03-16-95	1,315	139.67
TOWER #6	02-14-95 TO 03-16-95	1,821	190.92
TOWER #7	02-15-95 TO 03-17-95	732	80.63
TOWER #8	02-15-95 TO 03-17-95	1,527	240.19
TOWER #9	02-17-95 TO 03-17-95	1	6.61
TOWER #12	02-16-95 TO 03-20-95	0	6.50
DEER CREEK	01-23-95 TO 02-21-95	87,100	6,523.78
301 OLDBAY LANE	02-27-95 TO 03-28-95	210	25.83
401 RICHARDS LANE	02-24-95 TO 03-27-95	1,141	89.33
PRIESTFORD ROAD	02-21-95 TO 03-21-95	15,180	1,763.51
300 N. PARADISE ROAD	02-27-95 TO 03-28-95	25,400	1,743.78
526 MICHAELSVILLE RD	02-16-95 TO 03-20-95	212	25.97
ABERDEEN CONTRACT	03-02-95 TO 03-31-95	10,331,000	503,667.10
TENNESSEE AVENUE	02-21-95 TO 03-22-95	12	7.73
ROUTE 297	02-23-95 TO 03-24-95	12	7.73
WATER & CONESTOGA RDS	02-09-95 TO 03-10-95	20	13.75
BAYVIEW BLVD	02-09-95 TO 03-10-95	20	13.75
GROVE POINT 55	02-09-95 TO 03-09-95	0	9.00
CRYSTAL BEACH 54	02-27-95 TO 03-27-95	0	9.00
ABERDEEN COMMISSARY	03-02-95 TO 03-31-95	(216,443)	(10,552.25)
	AA SUB TOTALS	10,249,260	504,012.53
	COMBINED EA & AA TOT	16,737,205	776,244.99

SUBJECT: DISTRIBUTION OF GAS CHARGES DATE: MARCH 1995

1. EDGEWOOD AREA	DATE	THERMS	COST
15 JACOB STREET	01-27-95 TO 02-28-95	3,847	1,773.46
140 HAWTHORNE DRIVE	02-28-95 TO 03-29-95	2,630	1,221.64
1570 STARK ROAD	02-28-95 TO 03-29-95	15,939	7,204.07
	EA SUB TOTALS	22,416	10,199.17

2. ABERDEEN AREA	DATE	THERMS	COST
1 CHESAPEAKE ROAD	02-24-95 TO 03-27-95	11,964	5,349.71
2600 ABERDEEN BLVD	02-24-95 TO 03-27-95	1,029	487.11
	AA SUB TOTALS	12,993	5,836.82
	COMBINED EA & AA TOT	35,409	16,035.99

SUBJECT: DISTRIBUTION OF ELECTRIC CHARGES DATE: APRIL 1995

1. EDGEWOOD AREA	DATE	KWH	COST
1601 HANSON ROAD	03-27-95 TO 04-25-95	7	11.99
6860 BELARDI ROAD	02-28-95 TO 03-29-95	13,800	1,031.93
CARROLL ISLAND	03-14-95 TO 04-12-95	0	11.50
1900 NUTTAL AVE	03-29-95 TO 04-27-95	60,060	3,914.78
GRACES QUARTERS	04-05-95 TO 05-04-95	5,700	385.14
EDGEWOOD CONTRACT	03-31-95 TO 05-01-95	6,638,960	272,484.27
EDGEWOOD COMMISSARY	03-02-95 TO 03-31-95	0	0.00
	EA SUB TOTALS	6,718,527	277,839.61

2. ABERDEEN AREA	DATE	KWH	COST
TOWER #5	03-16-95 TO 04-18-95	1,047	112.86
TOWER #6	03-16-95 TO 04-18-95	842	94.28
TOWER #7	03-17-95 TO 04-19-95	0	6.70
TOWER #8	03-17-95 TO 04-19-95	1,073	117.45
TOWER #9	03-17-95 TO 04-19-95	0	6.70
TOWER #12	03-20-95 TO 04-20-95	0	6.50
DEER CREEK	02-21-95 TO 03-31-95	80,600	6,400.38
301 OLDBAY LANE	03-28-95 TO 04-26-95	263	29.44
401 RICHARDS LANE	03-27-95 TO 04-25-95	1,232	95.53
PRIESTFORD ROAD	03-21-95 TO 04-20-95	11,410	1,292.40
300 N. PARADISE ROAD	03-28-95 TO 04-26-95	20,200	1,389.14
526 MICHAELSVILLE RD	03-20-95 TO 04-18-95	139	20.99
ABERDEEN CONTRACT	03-31-95 TO 05-01-95	9,912,000	466,581.49
TENNESSEE AVENUE	03-22-95 TO 04-21-95	12	7.73
ROUTE 297	03-24-95 TO 04-10-95	12	7.85
WATER & CONESTOGA RDS	03-10-95 TO 04-10-95	20	26.93
BAYVIEW BLVD	03-10-95 TO 04-10-95	20	26.73
GROVE POINT 55	03-09-95 TO 04-11-95	0	9.00
CRYSTAL BEACH 54	03-27-95 TO 04-27-95	0	9.00
ABERDEEN COMMISSARY	03-31-95 TO 05-01-95	(215,564)	(10,147.03)
	AA SUB TOTALS	9,813,306	466,094.07
	COMBINED EA & AA TOT	16,531,833	743,933.68

SUBJECT: DISTRIBUTION OF GAS CHARGES DATE: APRIL 1995

1. EDGEWOOD AREA	DATE	THERMS	COST
15 JACOB STREET	01-27-95 TO 03-29-95	3,821	6.21
140 HAWTHORNE DRIVE	03-29-95 TO 04-27-95	2,233	1,011.59
1570 STARK ROAD	03-29-95 TO 04-27-95	11,228	5,176.02
	EA SUB TOTALS	17,282	6,193.82

2. ABERDEEN AREA	DATE	THERMS	COST
1 CHESAPEAKE ROAD	03-27-95 TO 04-25-95	7,439	3,335.03
2600 ABERDEEN BLVD	03-27-95 TO 04-25-95	418	201.55
	AA SUB TOTALS	7,857	3,536.58
	COMBINED EA & AA TOT	25,139	9,730.40

SUBJECT: DISTRIBUTION OF ELECTRIC CHARGES DATE: MAY 1995

1. EDGEWOOD AREA	DATE	KWH	COST
1601 HANSON ROAD	03-27-95 TO 05-24-95	5	11.36
6860 BELARDI ROAD	03-29-95 TO 04-27-95	13,200	1,000.98
CARROLL ISLAND	04-12-95 TO 05-11-95	2,400	168.82
1900 NUTTAL AVE	04-27-95 TO 05-26-95	72,380	4,821.80
GRACES QUARTERS	05-04-95 TO 06-06-95	7,300	671.35
EDGEWOOD CONTRACT	05-01-95 TO 06-01-95	7,582,800	318,884.91
EDGEWOOD COMMISSARY	03-02-95 TO 03-31-95	0	0.00
	EA SUB TOTALS	7,678,085	325,559.22

2. ABERDEEN AREA	DATE	KWH	COST
TOWER #5	04-18-95 TO 05-16-95	294	36.60
TOWER #6	04-18-95 TO 05-16-95	293	38.71
TOWER #7	04-19-95 TO 05-17-95	0	7.71
TOWER #8	04-19-95 TO 05-17-95	579	67.45
TOWER #9	04-19-95 TO 05-17-95	0	6.50
TOWER #12	04-20-95 TO 05-18-95	0	6.50
DEER CREEK	03-11-95 TO 04-20-95	79,500	6,369.12
301 OLDBAY LANE	04-26-95 TO 05-25-95	309	32.58
401 RICHARDS LANE	04-25-95 TO 05-24-95	261	29.30
PRIESTFORD ROAD	04-20-95 TO 05-19-95	9,890	3,012.95
300 N. PARADISE ROAD	04-26-95 TO 05-25-95	18,700	1,286.85
526 MICHAELSVILLE RD	04-18-95 TO 05-17-95	139	20.99
ABERDEEN CONTRACT	05-01-95 TO 06-01-95	9,685,000	467,797.96
TENNESSEE AVENUE	04-25-95 TO 05-24-95	12	7.73
ROUTE 297	04-25-95 TO 05-24-95	12	7.73
WATER & CONESTOGA RDS	04-10-95 TO 05-10-95	20	13.95
BAYVIEW BLVD	04-10-95 TO 05-10-95	20	13.17
GROVE POINT 55	04-11-95 TO 05-09-95	0	9.00
CRYSTAL BEACH 54	04-27-95 TO 05-26-95	0	9.00
ABERDEEN COMMISSARY	05-01-95 TO 06-01-95	(244,579)	(11,813.41)
	AA SUB TOTALS	9,550,450	466,960.39
	COMBINED EA & AA TOT	17,228,535	792,519.61

SUBJECT: DISTRIBUTION OF GAS CHARGES DATE: MAY 1995

1. EDGEWOOD AREA	DATE	THERMS	COST
15 JACOB STREET	03-29-95 TO 04-27-95	1,797	817.00
140 HAWTHORNE DRIVE	04-27-95 TO 05-26-95	2,240	1,013.59
1570 STARK ROAD	04-27-95 TO 05-26-95	6,982	3,283.96
	EA SUB TOTALS	11,019	5,114.55

2. ABERDEEN AREA	DATE	THERMS	COST
1 CHESAPEAKE ROAD	04-25-95 TO 05-24-95	4,433	1,991.23
2600 ABERDEEN BLVD	04-25-95 TO 05-24-95	320	157.66
	AA SUB TOTALS	4,753	2,148.89
	COMBINED EA & AA TOT	15,772	7,263.44

ATTACHMENT 8.9
LCCID DATA

Life Cycle Cost Analysis Study:
nergy Conservation Investment Program (ECIP) LCCID FY96
nstallation & Location: Aberdeen Proving Grounds
Region data: MARYLAND Census Region: 3
roject NO. & Title: 4130.06 New 115 kV Substation - 2 Transformers
iscal Year: 1995 Discrete Portion: ECO-1
Analysis Date: 04/12/96 Economic Life: 20 years
repared by: SAB

ECIP Summary Report

. Investment

A. Construction Cost	3560000
B. SIOH	270000
C. Design Cost	270000
D. Total Cost (1A+1B+1C)	$4,100,000
E. Salvage Value of Existing Equip.	$0
F. Public Utility Company Rebate	$0
G. Total Investment (1D-1E-1F)	$4,100,000

. Energy Savings (+) / Costs (-)
ate of NISTIR 85-3273-X used for Discount Factors Oct 1995

Fuel	Price	Price Units	Usage Savings	Usage Units	Annual Savings	Discount Factor	Discounted Savings
Electricity	$8.8	/Mbtus	-4,429	Mbtus	-$38,926	13.84	-$538,743
Elec. Deman					$640,000	13.47	$8,620,800
TOTAL			-4,429	Mbtus	$601,074		$8,082,058

. Non Energy Savings (+) / Costs (-)

Item	Savings/ Cost	Year	Discount Factor	Discounted Savings/Cost
New	-$15,000	Annual	13.47	-$202,050
ANNUAL TOTAL	-$15,000			-$202,050
ONE TIME TOTAL	$0			$0
TOTAL	-$15,000			-$202,050

. First Year Dollar Savings $586,074
5. Simple Payback Period (Years) 7.0
. Total Net Discounted Savings $7,880,008
. Savings to Investment Ratio 1.92
If < 1, Project does not qualify
8. Adjusted Internal Rate of Return 7.56%

Life Cycle Cost Analysis Study:
nergy Conservation Investment Program (ECIP) LCCID FY96
nstallation & Location: Aberdeen Proving Grounds
Region data: MARYLAND Census Region: 3
roject NO. & Title: 4130.06 New 115 kV Substation - 1 Transformers
iscal Year: 1995 Discrete Portion: ECO-1A
Analysis Date: 04/12/96 Economic Life: 20 years
repared by: SAB

ECIP Summary Report

. Investment

A. Construction Cost	2300000
B. SIOH	200000
C. Design Cost	200000
D. Total Cost (1A+1B+1C)	$2,700,000
E. Salvage Value of Existing Equip.	$0
F. Public Utility Company Rebate	$0
G. Total Investment (1D-1E-1F)	$2,700,000

. Energy Savings (+) / Costs (-)
ate of NISTIR 85-3273-X used for Discount Factors Oct 1995

Fuel	Price	Price Units	Usage Savings	Usage Units	Annual Savings	Discount Factor	Discounted Savings
Electricity	$8.8	/Mbtus	-4,429	Mbtus	-$38,926	13.84	-$538,743
Elec. Deman					$640,000	13.47	$8,620,800
TOTAL			-4,429	Mbtus	$601,074		$8,082,058

. Non Energy Savings (+) / Costs (-)

Item	Savings/ Cost	Year	Discount Factor	Discounted Savings/Cost
New	-$15,000	Annual	13.47	-$202,050
ANNUAL TOTAL	-$15,000			-$202,050
ONE TIME TOTAL	$0			$0
TOTAL	-$15,000			-$202,050

. First Year Dollar Savings	$586,074
5. Simple Payback Period (Years)	4.61
6. Total Net Discounted Savings	$7,880,008
7. Savings to Investment Ratio	2.92
If < 1, Project does not qualify	
8. Adjusted Internal Rate of Return	9.83%

Life Cycle Cost Analysis Study:
nergy Conservation Investment Program (ECIP) LCCID FY96
nstallation & Location: Aberdeen Proving Grounds
Region data: MARYLAND Census Region: 3
roject NO. & Title: 4130.06 Upgrading Substations 4 & 9
iscal Year: 1995 Discrete Portion: ECO-2
Analysis Date: 04/12/96 Economic Life: 20 years
repared by: SAB

ECIP Summary Report

. Investment

A. Construction Cost	450000
B. SIOH	35000
C. Design Cost	35000
D. Total Cost (1A+1B+1C)	$520,000
E. Salvage Value of Existing Equip.	$0
F. Public Utility Company Rebate	$0
G. Total Investment (1D-1E-1F)	$520,000

. Energy Savings (+) / Costs (-)
ate of NISTIR 85-3273-X used for Discount Factors Oct 1995

Fuel	Price	Price Units	Usage Savings	Usage Units	Annual Savings	Discount Factor	Discounted Savings
Electricity	$.	/Mbtus	0	Mbtus	$0	13.84	$0
Elec. Deman					$140,000	13.47	$1,885,800
TOTAL			0	Mbtus	$140,000		$1,885,800

. Non Energy Savings (+) / Costs (-)

Item	Savings/ Cost	Year	Discount Factor	Discounted Savings/Cost
ANNUAL TOTAL	$0			$0
ONE TIME TOTAL	$0			$0
TOTAL	$0			$0

. First Year Dollar Savings	$140,000
. Simple Payback Period (Years)	3.71
6. Total Net Discounted Savings	$1,885,800
7. Savings to Investment Ratio	3.63
If < 1, Project does not qualify	
. Adjusted Internal Rate of Return	11.03%

Life Cycle Cost Analysis Study:
nergy Conservation Investment Program (ECIP) LCCID FY96
nstallation & Location: Aberdeen Proving Grounds
Region data: MARYLAND Census Region: 3
roject NO. & Title: 4130.06 Upgrading Substations 18
iscal Year: 1995 Discrete Portion: ECO-3
Analysis Date: 04/12/96 Economic Life: 20 years
repared by: SAB

ECIP Summary Report

. Investment

A. Construction Cost	1300000
B. SIOH	100000
C. Design Cost	100000
D. Total Cost (1A+1B+1C)	$1,500,000
E. Salvage Value of Existing Equip.	$0
F. Public Utility Company Rebate	$0
G. Total Investment (1D-1E-1F)	$1,500,000

. Energy Savings (+) / Costs (-)
ate of NISTIR 85-3273-X used for Discount Factors Oct 1995

Fuel	Price	Price Units	Usage Savings	Usage Units	Annual Savings	Discount Factor	Discounted Savings
Electricity	$.	/Mbtus	0	Mbtus	$0	13.84	$0
Elec. Deman					$350,000	13.47	$4,714,500
TOTAL			0	Mbtus	$350,000		$4,714,500

. Non Energy Savings (+) / Costs (-)

Item	Savings/ Cost	Year	Discount Factor	Discounted Savings/Cost
ANNUAL TOTAL	$0			$0
ONE TIME TOTAL	$0			$0
TOTAL	$0			$0

. First Year Dollar Savings	$350,000
5. Simple Payback Period (Years)	4.29
6. Total Net Discounted Savings	$4,714,500
7. Savings to Investment Ratio	3.14
If < 1, Project does not qualify	
8. Adjusted Internal Rate of Return	10.23%

Life Cycle Cost Analysis Study:
nergy Conservation Investment Program (ECIP) LCCID FY96
Installation & Location: Aberdeen Proving Grounds
Region data: MARYLAND Census Region: 3
roject NO. & Title: 4130.06 Emergency Generation Rider
iscal Year: 1995 Discrete Portion: ECO-4
Analysis Date: 04/12/96 Economic Life: 20 years
repared by: SAB

ECIP Summary Report

. Investment

A. Construction Cost	0
B. SIOH	0
C. Design Cost	0
D. Total Cost (1A+1B+1C)	$0
E. Salvage Value of Existing Equip.	$0
F. Public Utility Company Rebate	$0
G. Total Investment (1D-1E-1F)	$0

***** No investment costs. Other items should be checked. *****

2. Energy Savings (+) / Costs (-)

Date of NISTIR 85-3273-X used for Discount Factors Oct 1995

Fuel	Price	Price Units	Usage Savings	Usage Units	Annual Savings	Discount Factor	Discounted Savings
Electricity	$11.7	/Mbtus	143	Mbtus	$1,676	13.84	$23,193
Elec. Deman					$16,700	13.47	$224,949
Residual Oi	$5.1	/Mbtus	-178	Mbtus	-$899	17.62	-$15,839
Natural Gas	$5.1	/Mbtus	-300	Mbtus	-$1,530	17.89	-$27,372
TOTAL			-335	Mbtus	$15,947		$204,932

. Non Energy Savings (+) / Costs (-)

Item	Savings/ Cost	Year	Discount Factor	Discounted Savings/Cost
New	-$4,300	Annual	13.47	-$57,921
ANNUAL TOTAL	-$4,300			-$57,921
ONE TIME TOTAL	$0			$0
TOTAL	-$4,300			-$57,921

. First Year Dollar Savings	$11,647
5. Simple Payback Period (Years)	0
6. Total Net Discounted Savings	$147,011
7. Savings to Investment Ratio	NA
If < 1, Project does not qualify	
8. Adjusted Internal Rate of Return	-100.0%

Life Cycle Cost Analysis Study:
nergy Conservation Investment Program (ECIP) LCCID FY96
nstallation & Location: Aberdeen Proving Grounds
Region data: MARYLAND Census Region: 3
roject NO. & Title: 4130.06 Curtailment Service Rider
iscal Year: 1995 Discrete Portion: ECO-5
Analysis Date: 04/12/96 Economic Life: 20 years
repared by: SAB

ECIP Summary Report

. Investment

A. Construction Cost	4300000
B. SIOH	300000
C. Design Cost	300000
D. Total Cost (1A+1B+1C)	$4,900,000
E. Salvage Value of Existing Equip.	$0
F. Public Utility Company Rebate	$0
G. Total Investment (1D-1E-1F)	$4,900,000

. Energy Savings (+) / Costs (-)
Date of NISTIR 85-3273-X used for Discount Factors Oct 1995

Fuel	Price	Price Units	Usage Savings	Usage Units	Annual Savings	Discount Factor	Discounted Savings
Electricity	$14.9	/Mbtus	2,048	Mbtus	$30,597	13.84	$423,464
Elec. Deman					$1,800,000	13.47	$24,246,000
Residual Oi	$5.1	/Mbtus	-6,824	Mbtus	-$34,461	17.62	-$607,206
TOTAL			-4,776	Mbtus	$1,796,136		$24,062,260

3. Non Energy Savings (+) / Costs (-)

Item	Savings/ Cost	Year	Discount Factor	Discounted Savings/Cost
ANNUAL TOTAL	$0			$0
ONE TIME TOTAL	$0			$0
TOTAL	$0			$0

4. First Year Dollar Savings	$1,796,136
5. Simple Payback Period (Years)	2.73
6. Total Net Discounted Savings	$24,062,260
7. Savings to Investment Ratio	4.91
If < 1, Project does not qualify	
8. Adjusted Internal Rate of Return	12.72%

Life Cycle Cost Analysis Study:
nergy Conservation Investment Program (ECIP) LCCID FY96
nstallation & Location: Aberdeen Proving Grounds
Region data: MARYLAND Census Region: 3
roject NO. & Title: 4130.06 Peak Shaving with Emergency Generators
iscal Year: 1995 Discrete Portion: ECO-6
Analysis Date: 04/12/96 Economic Life: 20 years
repared by: SAB

ECIP Summary Report

. Investment

A. Construction Cost	1100
B. SIOH	0
C. Design Cost	66
D. Total Cost (1A+1B+1C)	$1,166
E. Salvage Value of Existing Equip.	$0
F. Public Utility Company Rebate	$0
G. Total Investment (1D-1E-1F)	$1,166

. Energy Savings (+) / Costs (-)
ate of NISTIR 85-3273-X used for Discount Factors Oct 1995

Fuel	Price	Price Units	Usage Savings	Usage Units	Annual Savings	Discount Factor	Discounted Savings
Electricity	$14.9	/Mbtus	1,051	Mbtus	$15,702	13.84	$217,315
Elec. Deman					$17,000	13.47	$228,990
Residual Oi	$5.1	/Mbtus	-1,302	Mbtus	-$6,575	17.62	-$115,853
Natural Gas	$5.1	/Mbtus	-2,202	Mbtus	-$11,230	17.89	-$200,908
TOTAL			-2,453	Mbtus	$14,897		$129,543

. Non Energy Savings (+) / Costs (-)

Item	Savings/ Cost	Year	Discount Factor	Discounted Savings/Cost
ANNUAL TOTAL	$0			$0
ONE TIME TOTAL	$0			$0
TOTAL	$0			$0

4. First Year Dollar Savings	$14,897
5. Simple Payback Period (Years)	.08
6. Total Net Discounted Savings	$129,543
7. Savings to Investment Ratio	111.1
If < 1, Project does not qualify	
8. Adjusted Internal Rate of Return	31.75%

Life Cycle Cost Analysis Study:
Energy Conservation Investment Program (ECIP) LCCID FY96
Installation & Location: Aberdeen Proving Grounds
Region data: MARYLAND Census Region: 3
Project NO. & Title: 4130.06 Electric Clothes Dryers to Natural Gas
Fiscal Year: 1995 Discrete Portion: ECO-7
Analysis Date: 04/12/96 Economic Life: 20 years
Prepared by: SAB

ECIP Summary Report

1. Investment

A. Construction Cost	68000
B. SIOH	6000
C. Design Cost	5000
D. Total Cost (1A+1B+1C)	$79,000
E. Salvage Value of Existing Equip.	$0
F. Public Utility Company Rebate	$0
G. Total Investment (1D-1E-1F)	$79,000

2. Energy Savings (+) / Costs (-)
Date of NISTIR 85-3273-X used for Discount Factors Oct 1995

Fuel	Price	Price Units	Usage Savings	Usage Units	Annual Savings	Discount Factor	Discounted Savings
Electricity	$9.8	/Mbtus	1,258	Mbtus	$12,291	13.84	$170,103
Elec. Deman					$7,000	13.47	$94,290
Natural Gas	$5.1	/Mbtus	-1,799	Mbtus	-$9,175	17.89	-$164,139
TOTAL			-541	Mbtus	$10,116		$100,254

3. Non Energy Savings (+) / Costs (-)

Item	Savings/ Cost	Year	Discount Factor	Discounted Savings/Cost
ANNUAL TOTAL	$0			$0
ONE TIME TOTAL	$0			$0
TOTAL	$0			$0

4. First Year Dollar Savings	$10,116
5. Simple Payback Period (Years)	7.81
6. Total Net Discounted Savings	$100,254
7. Savings to Investment Ratio	1.27
If < 1, Project does not qualify	
8. Adjusted Internal Rate of Return	5.35%

Life Cycle Cost Analysis Study:
nergy Conservation Investment Program (ECIP) LCCID FY96
Installation & Location: Aberdeen Proving Grounds
Region data: MARYLAND Census Region: 3
roject NO. & Title: 4130.06 Disable Door Sensor
iscal Year: 1995 Discrete Portion: ECO-8
Analysis Date: 04/12/96 Economic Life: 20 years
repared by: SAB

ECIP Summary Report

. Investment

A. Construction Cost	240
B. SIOH	0
C. Design Cost	0
D. Total Cost (1A+1B+1C)	$240
E. Salvage Value of Existing Equip.	$0
F. Public Utility Company Rebate	$0
G. Total Investment (1D-1E-1F)	$240

. Energy Savings (+) / Costs (-)
Date of NISTIR 85-3273-X used for Discount Factors Oct 1995

Fuel	Price	Price Units	Usage Savings	Usage Units	Annual Savings	Discount Factor	Discounted Savings
Electricity	$9.8	/Mbtus	2	Mbtus	$20	13.84	$270
Elec. Deman					$10	13.47	$135
TOTAL			2	Mbtus	$30		$405

. Non Energy Savings (+) / Costs (-)

Item	Savings/ Cost	Year	Discount Factor	Discounted Savings/Cost
ANNUAL TOTAL	$0			$0
ONE TIME TOTAL	$0			$0
TOTAL	$0			$0

. First Year Dollar Savings	$30
. Simple Payback Period (Years)	8.12
6. Total Net Discounted Savings	$405
. Savings to Investment Ratio	1.69
If < 1, Project does not qualify	
8. Adjusted Internal Rate of Return	6.86%

Life Cycle Cost Analysis Study:
nergy Conservation Investment Program (ECIP) LCCID FY96
Installation & Location: Aberdeen Proving Grounds
egion data: MARYLAND Census Region: 3
roject NO. & Title: 4130.06 Limit Floor Warming System
iscal Year: 1995 Discrete Portion: ECO-9
Analysis Date: 04/12/96 Economic Life: 20 years
repared by: SAB

ECIP Summary Report

. Investment

A. Construction Cost	0
B. SIOH	0
C. Design Cost	0
D. Total Cost (1A+1B+1C)	$0
E. Salvage Value of Existing Equip.	$0
F. Public Utility Company Rebate	$0
G. Total Investment (1D-1E-1F)	$0

***** No investment costs. Other items should be checked. *****

2. Energy Savings (+) / Costs (-)

Date of NISTIR 85-3273-X used for Discount Factors Oct 1995

Fuel	Price	Price Units	Usage Savings	Usage Units	Annual Savings	Discount Factor	Discounted Savings
Electricity	$7.8	/Mbtus	129	Mbtus	$1,000	13.84	$13,837
Elec. Deman					$800	13.47	$10,776
TOTAL			129	Mbtus	$1,800		$24,613

3. Non Energy Savings (+) / Costs (-)

Item	Savings/ Cost	Year	Discount Factor	Discounted Savings/Cost
ANNUAL TOTAL	$0			$0
ONE TIME TOTAL	$0			$0
TOTAL	$0			$0

4. First Year Dollar Savings	$1,800
5. Simple Payback Period (Years)	0
6. Total Net Discounted Savings	$24,613
7. Savings to Investment Ratio	NA
If < 1, Project does not qualify	
8. Adjusted Internal Rate of Return	-100.0%

Life Cycle Cost Analysis Study:
nergy Conservation Investment Program (ECIP) LCCID FY96
nstallation & Location: Aberdeen Proving Grounds
Region data: MARYLAND Census Region: 3
roject NO. & Title: 4130.06 Electric Dryers to Gas - New Dryers
iscal Year: 1995 Discrete Portion: ECO-11
Analysis Date: 04/12/96 Economic Life: 20 years
repared by: SAB

ECIP Summary Report

. Investment

A. Construction Cost	154000
B. SIOH	12000
C. Design Cost	11000
D. Total Cost (1A+1B+1C)	$177,000
E. Salvage Value of Existing Equip.	$0
F. Public Utility Company Rebate	$0
G. Total Investment (1D-1E-1F)	$177,000

. Energy Savings (+) / Costs (-)
ate of NISTIR 85-3273-X used for Discount Factors Oct 1995

Fuel	Price	Price Units	Usage Savings	Usage Units	Annual Savings	Discount Factor	Discounted Savings
Electricity	$9.8	/Mbtus	1,258	Mbtus	$12,291	13.84	$170,103
Elec. Deman					$7,000	13.47	$94,290
Natural Gas	$5.1	/Mbtus	-1,799	Mbtus	-$9,175	17.89	-$164,139
TOTAL			-541	Mbtus	$10,116		$100,254

3. Non Energy Savings (+) / Costs (-)

Item	Savings/ Cost	Year	Discount Factor	Discounted Savings/Cost
ANNUAL TOTAL	$0			$0
ONE TIME TOTAL	$0			$0
TOTAL	$0			$0

. First Year Dollar Savings $10,116
5. Simple Payback Period (Years) 17.5
6. Total Net Discounted Savings $100,254
7. Savings to Investment Ratio .57
If < 1, Project does not qualify
8. Adjusted Internal Rate of Return 1.18%

Life Cycle Cost Analysis Study:
Energy Conservation Investment Program (ECIP) LCCID FY96
Installation & Location: Aberdeen Proving Grounds
Region data: MARYLAND Census Region: 3
Project NO. & Title: 4130.06 Insulation
Fiscal Year: 1995 Discrete Portion: ECO-12
Analysis Date: 04/12/96 Economic Life: 20 years
Prepared by: SAB

ECIP Summary Report

1. Investment

A. Construction Cost	9100
B. SIOH	700
C. Design Cost	700
D. Total Cost (1A+1B+1C)	$10,500
E. Salvage Value of Existing Equip.	$0
F. Public Utility Company Rebate	$0
G. Total Investment (1D-1E-1F)	$10,500

2. Energy Savings (+) / Costs (-)
Date of NISTIR 85-3273-X used for Discount Factors Oct 1995

Fuel	Price	Price Units	Usage Savings	Usage Units	Annual Savings	Discount Factor	Discounted Savings
Electricity	$6.7	/Mbtus	6	Mbtus	$40	13.84	$554
Elec. Deman					$60	13.47	$808
TOTAL			6	Mbtus	$100		$1,362

3. Non Energy Savings (+) / Costs (-)

Item	Savings/ Cost	Year	Discount Factor	Discounted Savings/Cost
ANNUAL TOTAL	$0			$0
ONE TIME TOTAL	$0			$0
TOTAL	$0			$0

4. First Year Dollar Savings	$100
5. Simple Payback Period (Years)	104.98
6. Total Net Discounted Savings	$1,362
7. Savings to Investment Ratio	.13
If < 1, Project does not qualify	
8. Adjusted Internal Rate of Return	-6.01%

Life Cycle Cost Analysis Study:
Energy Conservation Investment Program (ECIP) LCCID FY96
Installation & Location: Aberdeen Proving Grounds
Region data: MARYLAND Census Region: 3
Project NO. & Title: 4130.06 Ice Storage for Building 314
Fiscal Year: 1995 Discrete Portion: ECO-13
Analysis Date: 04/12/96 Economic Life: 20 years
Prepared by: SAB

ECIP Summary Report

1. Investment

A. Construction Cost	296000
B. SIOH	22000
C. Design Cost	22000
D. Total Cost (1A+1B+1C)	$340,000
E. Salvage Value of Existing Equip.	$0
F. Public Utility Company Rebate	$0
G. Total Investment (1D-1E-1F)	$340,000

2. Energy Savings (+) / Costs (-)
Date of NISTIR 85-3273-X used for Discount Factors Oct 1995

Fuel	Price	Price Units	Usage Savings	Usage Units	Annual Savings	Discount Factor	Discounted Savings
Electricity	$16.4	/Mbtus	-104	Mbtus	-$1,700	13.84	-$23,534
Elec. Deman					$31,700	13.47	$426,999
TOTAL			-104	Mbtus	$30,000		$403,466

3. Non Energy Savings (+) / Costs (-)

Item	Savings/ Cost	Year	Discount Factor	Discounted Savings/Cost
ANNUAL TOTAL	$0			$0
ONE TIME TOTAL	$0			$0
TOTAL	$0			$0

4. First Year Dollar Savings	$30,000
5. Simple Payback Period (Years)	11.33
6. Total Net Discounted Savings	$403,465
7. Savings to Investment Ratio	1.19
If < 1, Project does not qualify	
8. Adjusted Internal Rate of Return	4.99%

Life Cycle Cost Analysis Study:
Energy Conservation Investment Program (ECIP) LCCID FY96
Installation & Location: Aberdeen Proving Grounds
Region data: MARYLAND Census Region: 3
Project NO. & Title: 4130.06 Ice Storage for Building 5046
Fiscal Year: 1995 Discrete Portion: ECO-14
Analysis Date: 04/12/96 Economic Life: 20 years
Prepared by: SAB

ECIP Summary Report

1. Investment

A. Construction Cost	298000
B. SIOH	23000
C. Design Cost	22000
D. Total Cost (1A+1B+1C)	$343,000
E. Salvage Value of Existing Equip.	$0
F. Public Utility Company Rebate	$0
G. Total Investment (1D-1E-1F)	$343,000

2. Energy Savings (+) / Costs (-)
Date of NISTIR 85-3273-X used for Discount Factors Oct 1995

Fuel	Price	Price Units	Usage Savings	Usage Units	Annual Savings	Discount Factor	Discounted Savings
Electricity	$15.8	/Mbtus	-57	Mbtus	-$900	13.84	-$12,456
Elec. Deman					$13,900	13.47	$187,233
TOTAL			-57	Mbtus	$13,000		$174,777

3. Non Energy Savings (+) / Costs (-)

Item	Savings/ Cost	Year	Discount Factor	Discounted Savings/Cost
ANNUAL TOTAL	$0			$0
ONE TIME TOTAL	$0			$0
TOTAL	$0			$0

4. First Year Dollar Savings	$13,000
5. Simple Payback Period (Years)	26.38
6. Total Net Discounted Savings	$174,777
7. Savings to Investment Ratio	.51
If < 1, Project does not qualify	
8. Adjusted Internal Rate of Return	.65%

ATTACHMENT 8.10
LCCID - ENERGY ESCALATION VALUES
OCTOBER 94 (FY 95)

Life Cycle Cost Analysis Study: TEMP1
LCCID FY95 (92) Date/Time: 02-21-96 15:08:22
Project no., FY, & Title: FY
Installation & Location: MARYLAND
Design Feature:
Alt. Id. A; Title: ECO
Name of Designer:

Fuel & Non Fuel Escalation Values

Location - MARYLAND Census Region: 3
Rates for INDUSTRIAL Sector.

Energy Escalation Values (OCT 1994):

Energy Type	1994	1995	1996	1997	1998	1999	2000	2001	2002
ELECT	.99	-.13	-.33	-.79	.27	.86	1.05	-.06	-.07
DIST	.61	1.21	1.80	3.34	2.28	3.35	3.42	2.78	2.71
RESID	7.21	3.06	2.97	4.03	3.60	3.74	5.15	3.92	3.77
NAT G	4.07	2.20	2.15	2.34	1.37	1.35	2.23	3.27	1.05
COAL	3.83	6.84	-2.46	1.01	-1.50	.00	3.05	1.48	2.91
LPG	.43	1.19	1.01	2.74	1.13	2.16	2.35	1.76	2.33

Energy Type	2003	2004	2005	2006	2007	2008	2009	2010	2011
ELECT	.20	-.45	-.52	-.13	.79	.39	1.36	.45	.38
DIST	2.97	1.92	1.41	2.32	1.97	2.08	1.45	1.72	1.69
RESID	4.09	2.84	1.27	2.93	2.85	.99	1.57	2.70	2.63
NAT G	2.09	4.29	.20	3.52	4.54	1.45	1.96	2.10	2.05
COAL	1.42	.47	.46	.46	.00	1.83	-.90	.91	.90
LPG	1.84	1.23	1.57	1.47	1.24	1.16	1.35	1.40	1.45

Energy Type	2012	2013	2014	2015	2016	2017	2018	2019	2020
ELECT	.44	.38	.44	.44	.37	.44	.43	.43	.37
DIST	1.66	1.77	1.61	1.71	1.68	1.78	1.63	1.72	1.69
RESID	2.75	2.85	2.60	2.70	2.80	2.72	2.65	2.73	2.66
NAT G	2.01	1.97	2.10	2.05	2.01	1.97	2.08	2.04	2.14
COAL	1.34	.88	.87	1.30	.85	1.27	.84	.83	1.23
LPG	1.42	1.47	1.38	1.43	1.47	1.39	1.43	1.47	1.39

Energy Type	2021
ELECT	.43
DIST	1.67
RESID	2.73
NAT G	1.96
COAL	.81
LPG	1.43

Routine M&R/Custodial Costs

Major Repair & Replacement Costs

Other Operational Costs/Benefits

Life Cycle Cost Analysis Study: TEMP1
LCCID FY95 (92) Date/Time: 02-21-96 15:08:22
Project no., FY, & Title: FY
Installation & Location: MARYLAND
Design Feature:
Alt. Id. A; Title: ECO
Name of Designer:

Basic Input Data Summary

Criteria Reference:Tri-Service MOA for Econ Anal/LCC (Energy)

Discount Rate: 3.0%

Key Project-Calendar Information

Date of Study (DOS)	JAN 96
Midpoint of Construction (MPC)	JAN 96
Beneficial Occupancy Date (BOD)	JAN 96
Analysis End Date (AED)	JAN 21

Cost / Benefit Description	Cost in DOS $ (K Dollars)	Equivalent Uniform Differential Escalation Rate (% Per Year)	Time(s) Cost Incurred
INVESTMENT COSTS	1000.0	.00	JAN 96
ELECTRICITY	.0	.16	JUL96-JUL20
ELECT DEMAND	.0	.00	JUL96-JUL20
DISTILLATE OIL	.0	2.24	JUL96-JUL20
RESIDUAL OIL	.0	3.11	JUL96-JUL20
NATURAL GAS	.0	2.11	JUL96-JUL20
COAL	.0	.89	JUL96-JUL20
LIQ PETROL GAS	.0	1.58	JUL96-JUL20

Other Key Input Data

Location - MARYLAND Census Region: 3
Rates for INDUSTRIAL Sector. Tables from OCT 94

Energy Type	Unit Cost	Consumption	Projected Dates
ELECT	$ 25.00/MBTUs	12.0 K BTUs	JAN96-JAN21
Elect Dmd	N/A	.0 K Dollars	JAN96-JAN21
DIST	$ 5.00/MBTUs	34.0 K BTUs	JAN96-JAN21
RESID	$ 5.00/MBTUs	12.0 K BTUs	JAN96-JAN21
NAT G	$ 5.00/MBTUs	1.0 K BTUs	JAN96-JAN21
COAL	$ 5.00/MBTUs	4.0 K BTUs	JAN96-JAN21
LPG	$ 3.00/MBTUs	7.0 K BTUs	JAN96-JAN21

```
10 1994     3.0  FEMP Discount Rate
 40 ESCALATION PERIODS, YEARS PER ESCALATION PERIOD:
    39*1  99
(A8,F10.2,7F8.4,/,8X,9F8.4,/,8X,9F8.4,/,8X,9F8.4,/,8X,6F8.4)
(1X,/,1X,/,1X,/,1X,/,1X)
INDUSTRIAL
  6 ENERGY TYPES
  5 DOE REGIONS
DOE REGION  1.
ELECT        19.25  -.7273 -1.2559  -.2120   .2124   .6359   .0000   .8425
           .2089   .5211  -.5702   .5214  -.3631   .8329  1.7553  -.2537   .6104
           .4044   .4532   .4010   .3994   .4475   .3960   .4438   .3927   .4401
           .3895   .4365   .4346   .3846   .4310   .4292   .4274   .3783   .4239
           .4221   .4204   .4204   .4204   .4204   .4204
DIST          4.95   .6061  1.2048  1.7857  3.3138  2.0755  2.9575  3.7702
         2.7682  2.8620  2.7823  2.0701  1.4041  2.0000  1.9608  1.9231  1.4514
         1.7167  1.6878  1.6597  1.7687  1.6043  1.7105  1.6818  1.7812  1.6250
         1.7220  1.6929  1.6647  1.7544  1.7241  1.6949  1.6667  1.6394  1.7204
         1.6913  1.7672  1.7672  1.7672  1.7672  1.7672
RESID         2.77  4.3321  4.4983  3.9735  4.7771   .9119  4.2169  3.7572
         3.8997  5.3619  2.5445  1.9851  2.9197  4.7281  3.6117 -1.9608  2.4444
         2.8199  2.5317  2.8807  2.6000  2.7290  2.6565  2.7726  2.6978  2.8021
         2.7257  2.6534  2.7464  2.6730  2.7565  2.6826  2.7576  2.6836  2.6135
         2.8150  2.6076  2.6076  2.6076  2.6076  2.6076
NAT G         4.83  3.7267  1.7964  2.1569  1.9194  1.3183  1.1152  2.0221
         3.4234   .6969  1.9031  4.2445  -.1629  3.4258  4.5741  1.5083  1.9317
         2.0408  2.0000  2.1008  2.0576  2.0161  1.8445  1.6818  1.7812  1.6250
         1.7220  1.6929  1.6647  1.7544  1.7241  1.6949  1.6667  1.6394  1.7204
         1.6913  1.7672  1.7672  1.7672  1.7672  1.7672
COAL          1.66 -3.6145  -.6250  1.2579   .6211 17.2839-11.0526  1.7751
        -2.3256   .0000  2.9762  -.5780 -1.7442  1.7751   .5814  1.7341   .0000
         1.1364  1.1236   .5556  1.1050  1.0929  1.0811  1.0695  1.0582  1.0471
         1.0363  1.0256  1.0152  1.0050   .9950   .9852   .9756   .9662   .9569
          .9479   .9390   .9390   .9390   .9390   .9390
LPG          12.38   .9693  1.8400   .9427  1.9455  1.6794  1.8769  2.3581
         1.6559  1.9122  1.5288  1.3689  1.0128  1.6711  1.1177  1.1704  1.4139
         1.4575  1.3741  1.4787  1.3965  1.4371  1.4168  1.4552  1.3769  1.4714
         1.3943  1.4301  1.4642  1.3896  1.4233  1.4553  1.4344  1.4141  1.4442
         1.4237  1.4037  1.4037  1.4037  1.4037  1.4037
DOE REGION  2.
ELECT        13.41   .2983   .8178   .0737   .2948  1.1021   .7994   .5047
           .5739   .7846   .2831   .3529   .7736   .7676   .2770  1.1050  5.3962
           .3888   .4519   .3856   .4481   .4461   .3807   .4425   .3776   .4389
           .4370   .3729   .4334   .4316   .4297   .4279   .4260   .3636   .4227
           .4209   .4192   .4192   .4192   .4192   .4192
DIST          4.52   .6637  3.7363  2.1187  2.9046  2.8226  2.9412  3.6190
         2.9412  3.0357  2.9463  2.1886  1.3180  2.4390  2.2222  2.0186  1.3699
         1.6517  1.7725  1.5965  1.7143  1.6854  1.7956  1.6282  1.7356  1.7060
         1.6774  1.6497  1.7478  1.7178  1.6888  1.6607  1.7503  1.7202  1.6911
         1.6630  1.6358  1.6358  1.6358  1.6358  1.6358
RESID         2.84  7.3944  3.2787  3.1746  4.6154  3.5294  3.9773  5.4645
         4.1451  3.9801  4.3062  2.9816  1.3363  3.0769  2.9851  1.0352  1.6393
         2.6210  2.7505  2.6769  2.7933  2.7174  2.6455  2.7491  2.6756  2.7687
         2.6941  2.7778  2.7027  2.6316  2.8490  2.6316  2.6991  2.7595  2.6854
```

```
          2.7397  2.6667  2.6667  2.6667  2.6667  2.6667
NAT G        3.98  3.2663  2.1898  2.6191  2.0882  1.1364  1.1236  1.7778
          2.1834  2.3504  2.2965  2.6531  2.1869  3.1128  2.4528  1.4733  1.6334
          1.9643  2.1016  2.0583  2.0168  2.1417  1.9355  2.0570  2.0155  2.1277
          2.0833  2.0408  2.0000  1.9608  2.0604  2.0188  2.1108  2.0672  2.0253
          1.9851  2.0681  2.0681  2.0681  2.0681  2.0681  2.0681
COAL         1.42 -2.1127  2.8777   .0000   .6993  2.0833  2.0408  1.3333
         -2.6316  2.0270   .0000  3.9735   .0000   .0000  3.8217  4.9080  1.7544
          1.1494  1.1364   .5618  1.1173  1.1050  1.0929  1.0811  1.0695  1.0582
          1.0471   .5181  1.0309  1.0204  1.0101  1.5000   .9852   .9756   .9662
           .9569   .9479   .9479   .9479   .9479   .9479   .9479
LPG          8.81   .3405  1.9231  1.3319  3.5049  1.5873  2.8125  3.0395
          2.2615  2.8846  2.2430  1.6453  1.8885  1.8535  1.5598  1.7065  1.5940
          1.4038  1.4658  1.4446  1.4240  1.4041  1.3846  1.4416  1.4211  1.4749
          1.3808  1.4337  1.4841  1.3928  1.4423  1.4218  1.4019  1.4483  1.4276
          1.4076  1.4511  1.4511  1.4511  1.4511  1.4511
DOE REGION  3.
ELECT        15.09   .9940  -.1312  -.3285  -.7910   .2658   .8615  1.0512
         -.0650  -.0651   .1953  -.4548  -.5222  -.1312   .7884   .3911  1.3636
           .4484   .3826   .4447   .3795   .4411   .4392   .3748   .4356   .4337
           .4318   .3685   .4284   .4266   .4248   .4230   .4212   .4194   .4177
           .4159   .4142   .4142   .4142   .4142   .4142
DIST         4.91  .6110  1.2146  1.8000  3.3399  2.2814  3.3457  3.4173
          2.7826  2.7073  2.9654  1.9200  1.4129  2.3220  1.9667  2.0772  1.4535
          1.7192  1.6901  1.6621  1.7711  1.6064  1.7128  1.6839  1.7834  1.6270
          1.7241  1.6949  1.6667  1.7564  1.6111  1.6987  1.7817  1.6411  1.7223
          1.6931  1.6649  1.6649  1.6649  1.6649  1.6649  1.6649
RESID        3.05  7.2131  3.0581  2.9674  4.0346  3.6011  3.7433  5.1546
          3.9216  3.7736  4.0909  2.8384  1.2739  2.9350  2.8513   .9901  1.5686
          2.7027  2.6316  2.7473  2.8520  2.5997  2.7027  2.7961  2.7200  2.6480
          2.7314  2.6588  2.7338  2.8011  2.7248  2.6525  2.7132  2.7673  2.6928
          2.6222  2.7875  2.7875  2.7875  2.7875  2.7875  2.7875
NAT G        3.93  4.0712  2.2005  2.1531  2.3419  1.3730  1.3544  2.2272
          3.2680  1.0549  2.0877  4.2945   .1961  3.5225  4.5369  1.4467  1.9608
          2.0979  2.0548  2.0134  1.9737  2.0968  2.0537  2.0124  1.9727  2.0833
          2.0408  2.1429  1.9580  2.0576  2.0161  2.1080  2.0645  2.0228  1.9826
          2.0656  2.0238  2.0238  2.0238  2.0238  2.0238  2.0238
COAL         1.83  3.8251  6.8421 -2.4631  1.0101 -1.5000   .0000  3.0457
          1.4778  2.9126  1.4151   .4651   .4630   .4608   .0000  1.8349  -.9009
           .9091   .9009  1.3393   .8811   .8734  1.2987   .8547  1.2712   .8368
           .8299  1.2346   .8130  1.2097   .7968  1.1858  1.1719   .7722  1.1494
          1.1364   .7491   .7491   .7491   .7491   .7491
LPG         11.72   .4266  1.1895  1.0076  2.7431  1.1327  2.1600  2.3493
          1.7598  2.3308  1.8369  1.2266  1.5681  1.4737  1.2448  1.1612  1.3504
          1.3991  1.4455  1.4249  1.4687  1.3845  1.4277  1.4688  1.3872  1.4277
          1.4663  1.3873  1.4253  1.4615  1.3850  1.4754  1.4001  1.4339  1.4136
          1.4455  1.4249  1.4249  1.4249  1.4249  1.4249
DOE REGION  4.
ELECT        15.09   .9940  -.1312  -.3285  -.7910   .2658   .8615  1.0512
         -.0650  -.0651   .1953  -.4548  -.5222  -.1312   .7884   .3911  1.3636
           .4484   .3826   .4447   .3795   .4411   .4392   .3748   .4356   .4337
           .4318   .3685   .4284   .4266   .4248   .4230   .4212   .4194   .4177
           .4159   .4142   .4142   .4142   .4142   .4142
DIST         4.91   .6110  1.2146  1.8000  3.3399  2.2814  3.3457  3.4173
```

```
          2.7826  2.7073  2.9654  1.9200  1.4129  2.3220  1.9667  2.0772  1.4535
          1.7192  1.6901  1.6621  1.7711  1.6064  1.7128  1.6839  1.7834  1.6270
          1.7241  1.6949  1.6667  1.7564  1.6111  1.6987  1.7817  1.6411  1.7223
          1.6931  1.6649  1.6649  1.6649  1.6649  1.6649
RESID        3.05  7.2131  3.0581  2.9674  4.0346  3.6011  3.7433  5.1546
          3.9216  3.7736  4.0909  2.8384  1.2739  2.9350  2.8513   .9901  1.5686
          2.7027  2.6316  2.7473  2.8520  2.5997  2.7027  2.7961  2.7200  2.6480
          2.7314  2.6588  2.7338  2.8011  2.7248  2.6525  2.7132  2.7673  2.6928
          2.6222  2.7875  2.7875  2.7875  2.7875  2.7875
NAT G        3.93  4.0712  2.2005  2.1531  2.3419  1.3730  1.3544  2.2272
          3.2680  1.0549  2.0877  4.2945   .1961  3.5225  4.5369  1.4467  1.9608
          2.0979  2.0548  2.0134  1.9737  2.0968  2.0537  2.0124  1.9727  2.0833
          2.0408  2.1429  1.9580  2.0576  2.0161  2.1080  2.0645  2.0228  1.9826
          2.0656  2.0238  2.0238  2.0238  2.0238  2.0238
COAL         1.83  3.8251  6.8421 -2.4631  1.0101 -1.5000   .0000  3.0457
          1.4778  2.9126  1.4151   .4651   .4630   .4608   .0000  1.8349  -.9009
           .9091   .9009  1.3393   .8811   .8734  1.2987   .8547  1.2712   .8368
           .8299  1.2346   .8130  1.2097   .7968  1.1858  1.1719   .7722  1.1494
          1.1364   .7491   .7491   .7491   .7491   .7491
LPG          9.61  1.6649 -1.0235  1.4478  2.2426  1.4955  1.9646  1.9268
          1.7958  1.9499  1.8215  1.5206  5.3744  2.7592  2.1969  2.9459  1.7788
          1.4438  1.4232  1.4032  1.4567  1.4357  1.4154  1.3957  1.4453  1.4247
          1.4047  1.4512  1.4304  1.4103  1.4539  1.4330  1.4128  1.4537  1.3731
          1.4723  1.3929  1.3929  1.3929  1.3929  1.3929
DOE REGION  5.
ELECT       14.39   .2085  -.2774   .1391   .9028   .4818   .6849   .9524
           .4717  1.4085   .2646   .0660  2.0435   .8398   .8969  1.3968  1.0645
           .4337   .4318   .3685   .4284   .4266   .4248   .4230   .4212   .4194
           .4177   .4159   .4142   .4125   .4108   .4091   .4074   .4638   .4039
           .4023   .4007   .4007   .4007   .4007   .4007
DIST         4.45   .8989   .8909  2.6490  2.3656  3.3613  2.4390  3.9683
          2.8626  3.1540  3.0576  1.5707  2.2337  2.5210  2.1311  2.2472  2.1978
          1.6897  1.6616  1.7831  1.6058  1.7241  1.6949  1.6667  1.7760  1.6107
          1.7173  1.6883  1.7880  1.6311  1.7284  1.6990  1.6706  1.7606  1.6148
          1.7026  1.6741  1.6741  1.6741  1.6741  1.6741
RESID        2.65  1.8868  2.5926  4.6931  3.7931  4.6512  4.1270  3.3537
          4.1298  3.3994  4.6575  2.3560  3.8363  2.7094  2.8777  2.5641  2.7273
          2.6549  2.8017  2.7254  2.6531  2.7833  2.7079  2.6365  2.7523  2.6786
          2.7826  2.7073  2.6359  2.7287  2.8125  2.5836  2.8148  2.7378  2.6648
          2.7322  2.6596  2.6596  2.6596  2.6596  2.6596
NAT G        2.80  3.2143  3.8062  3.3333  1.9355  1.8987  1.5528  2.7523
          2.3810  3.1977  3.0986  2.7322  3.1915  3.6082  2.4876  1.6990  2.6253
          2.0930  2.0501  2.0089  1.9694  2.1459  1.8907  2.0619  2.2222  1.9763
          1.9380  2.0912  2.0484  2.0073  2.1467  1.9264  2.0619  2.0202  2.1452
          1.9386  2.0602  2.0602  2.0602  2.0602  2.0602
COAL         1.36 -2.2059  8.2707 -4.8611  3.6496  7.7465   .0000  3.2680
           .6329 -1.2579  1.2739 -3.1447 16.8831  -.5556 -6.1453  4.1667 -2.2857
          1.1696   .5780  1.1494  1.1364  1.1236  1.1111  1.0989   .5435  1.0811
          1.0695  1.0582  1.0471  1.0363  1.0256  1.0152  1.0050   .9950   .9852
           .9756   .9662   .9662   .9662   .9662   .9662
LPG         10.14   .6903  1.0774  1.1628  2.7778  1.3980  2.2978  2.5157
          1.8405  2.3236  1.9344  1.4852  2.4390  1.9048  1.5576  1.8405  1.5813
          1.4085  1.4620  1.4409  1.4205  1.4006  1.4503  1.4295  1.4094  1.4560
          1.3699  1.4801  1.3950  1.4384  1.4180  1.4590  1.3781  1.4775  1.3978
```

```
          1.4360  1.4156  1.4156  1.4156  1.4156  1.4156
RESIDENTIAL
  4 ENERGY TYPES
  5 DOE REGIONS
DOE REGION  1.
ELECT         30.08   .2327   .8955   .3616   .3275   .5877  1.4606   .8317
          1.3008   .5011  1.6828   .7355  1.1257  1.1131  2.0827  1.6322  2.0361
           .8994   .9192   .9109   .9026   .9217   .8864   .9318   .8969   .9150
           .9067   .8986   .9160   .9077   .8996   .9163   .9080   .8998   .9159
           .9076   .9231   .9231   .9231   .9231   .9231
DIST           7.10   .4225   .8415  1.3908  2.1948  1.6107  1.9815  2.7202
          2.0177  2.1014  2.0581  1.5421   .9346  1.6204  1.4806  1.4590  1.1062
          1.2035  1.1892  1.1752  1.1616  1.2526  1.2371  1.1202  1.2085  1.1940
          1.1799  1.2634  1.1516  1.2334  1.1246  1.2048  1.1905  1.1765  1.2522
          1.1484  1.2227  1.2227  1.2227  1.2227  1.2227
LPG           12.38   .9693  1.8400   .9427  1.9455  1.6794  1.8769  2.3581
          1.6559  1.9122  1.5288  1.3689  1.0128  1.6711  1.1177  1.1704  1.4139
          1.4575  1.3741  1.4787  1.3965  1.4371  1.4168  1.4552  1.3769  1.4714
          1.3943  1.4301  1.4642  1.3896  1.4233  1.4553  1.4344  1.4141  1.4442
          1.4237  1.4037  1.4037  1.4037  1.4037  1.4037
NAT G          7.96  2.8894  1.0989  1.4493  1.0714   .7067   .4678  1.1641
          2.3015   .1125  1.1236  3.5556 -.5365  2.5890  3.8906  1.2146  1.3000
          1.3820  1.3632  1.3449  1.3270  1.4032  1.2915  1.3661  1.3477  1.4184
          1.3112  1.3805  1.3617  1.3434  1.3256  1.3900  1.3710  1.3524  1.3344
          1.3168  1.3761  1.3761  1.3761  1.3761  1.3761
DOE REGION  2.
ELECT         23.11   .5193  1.2053   .4679   .1693  1.2257  1.0021  1.4055
           .6930   .7692   .8437   .5179  1.3080  2.3474  2.7523  2.4554 -.1816
           .9094   .9012   .9289   .8850   .9123   .9040   .9304   .8877   .9137
           .9054   .9305   .8890   .9138   .9056   .9295   .8892   .9128   .9045
           .9274   .8882   .8882   .8882   .8882   .8882
DIST           5.98   .5017  2.8286  1.6181  2.2293  2.1807  2.4390  2.6786
          2.4638  2.2631  2.3513  1.7568  1.1952  1.9685  1.6731  1.6456  1.2453
          1.2300  1.2151  1.0804  1.3064  1.1723  1.1587  1.1455  1.2457  1.2304
          1.2155  1.0917  1.2959  1.1727  1.1591  1.2500  1.1317  1.2208  1.2060
          1.1917  1.1776  1.1776  1.1776  1.1776  1.1776
LPG            8.81   .3405  1.9231  1.3319  3.5049  1.5873  2.8125  3.0395
          2.2615  2.8846  2.2430  1.6453  1.8885  1.8535  1.5598  1.7065  1.5940
          1.4038  1.4658  1.4446  1.4240  1.4041  1.3846  1.4416  1.4211  1.4749
          1.3808  1.4337  1.4841  1.3928  1.4423  1.4218  1.4019  1.4483  1.4276
          1.4076  1.4511  1.4511  1.4511  1.4511  1.4511
NAT G          5.80  3.1034  2.3411  1.9608  1.1218   .4754   .4732   .7849
          1.2461  1.3846  1.5174  2.3916  2.0438  2.5751  2.0921  1.0929  1.4865
          1.3316  1.4455  1.2953  1.4066  1.2610  1.3699  1.3513  1.3333  1.4354
          1.2972  1.3970  1.3777  1.3590  1.3408  1.3230  1.4146  1.2876  1.3771
          1.3584  1.3402  1.3402  1.3402  1.3402  1.3402
DOE REGION  3.
ELECT         22.47  2.3587  1.8261   .2989   .2129   .6372  1.7307  1.4523
           .2045   .2041   .6517  1.6593   .7564  2.0545  1.3550  1.1077   .3400
           .9036   .8955   .9246   .9161   .9078   .8996   .9272   .8834   .9107
           .9025   .9288   .9202   .8781   .9374   .8955   .9204   .9120   .9038
           .8957   .9195   .9195   .9195   .9195   .9195
DIST           7.17   .4184   .8333  1.2397  2.3129  1.4628  2.4902  2.3018
          2.1250  1.9584  2.1609  1.4101  1.0429  1.7202  1.4656  1.5556  1.0941
```

```
          1.1905  1.1765  1.2685  1.1482  1.2384  1.1213  1.2097  1.1952  1.1811
          1.2646  1.1527  1.2346  1.1257  1.2059  1.1916  1.1775  1.2534  1.1494
          1.2238  1.2090  1.2090  1.2090  1.2090  1.2090
LPG          11.72   .4266  1.1895  1.0076  2.7431  1.1327  2.1600  2.3493
          1.7598  2.3308  1.8369  1.2266  1.5681  1.4737  1.2448  1.1612  1.3504
          1.3991  1.4455  1.4249  1.4687  1.3845  1.4277  1.4688  1.3872  1.4277
          1.4663  1.3873  1.4253  1.4615  1.3850  1.4754  1.4001  1.4339  1.4136
          1.4455  1.4249  1.4249  1.4249  1.4249  1.4249
NAT G         7.27  3.0261  1.3351  1.5810  1.0376   .6419   .3826  1.1436
          2.2613   .0000  1.1056  3.5237  -.3521  2.4735  3.7931  1.1074  1.3143
          1.4054  1.2793  1.3684  1.3499  1.3320  1.4156  1.2961  1.3780  1.3592
          1.3410  1.4178  1.3048  1.3800  1.3612  1.3429  1.3251  1.3949  1.3758
          1.3571  1.3389  1.3389  1.3389  1.3389  1.3389
DOE REGION  4.
ELECT        23.35  1.2848  1.3108   .6260  1.1613  1.7220   .9674  1.7166
          1.4129   .9675  1.5332   .5662  1.3889  1.5920  1.0933  1.5862  1.3840
           .9100   .9018   .9282   .8856   .9115   .9033   .9284   .8870   .9118
           .9035   .9274   .9189   .9105   .9023   .8942   .9169   .9085   .9004
           .9221   .9136   .9136   .9136   .9136   .9136
DIST         6.11   .8183  1.6234  1.5974  1.8868  2.6235  1.0526  3.2738
          1.8732  2.5460  2.7586   .4027  2.4064  2.4804  1.5287  2.1330  1.9656
          1.2048  1.1905  1.1765  1.1628  1.2644  1.1351  1.2346  1.2195  1.2048
          1.1905  1.1765  1.1628  1.2539  1.1352  1.2245  1.2097  1.1952  1.1811
          1.1673  1.2500  1.2500  1.2500  1.2500  1.2500
LPG          9.61  1.6649 -1.0235  1.4478  2.2426  1.4955  1.9646  1.9268
          1.7958  1.9499  1.8215  1.5206  5.3744  2.7592  2.1969  2.9459  1.7788
          1.4438  1.4232  1.4032  1.4567  1.4357  1.4154  1.3957  1.4453  1.4247
          1.4047  1.4512  1.4304  1.4103  1.4539  1.4330  1.4128  1.4537  1.3731
          1.4723  1.3929  1.3929  1.3929  1.3929  1.3929
NAT G        6.01  1.1647  3.6184  2.8571  1.0802   .4580  1.0638   .9023
          1.7884  2.0498  2.2956  1.2623  1.8006  2.1769  1.5979   .6553  1.6927
          1.4085  1.2626  1.3716  1.3530  1.3350  1.4371  1.2987  1.3986  1.3793
          1.3605  1.3423  1.3245  1.3072  1.3979  1.3786  1.3598  1.3416  1.3238
          1.4070  1.2884  1.2884  1.2884  1.2884  1.2884
DOE REGION  5.
ELECT        23.95  1.2109  1.3614   .4477   .4862  1.0887  1.2764  1.3785
           .8547   .6163  1.1485   .9084  1.1253  1.7804  1.6764  1.6129   .8113
           .9097   .9015   .9278   .8853   .9112   .9030   .9281   .8867   .9115
           .9355   .8949   .9186   .9102   .9020   .8940   .9166   .9083   .9001
           .9218   .9134   .9134   .9134   .9134   .9134
DIST         6.87   .5822  1.0130  1.4327  2.2599  1.6575  2.0380  2.6631
          2.2049  2.0305  2.2388  1.4599  1.0791  1.6607  1.5169  1.6092  1.1312
          1.2304  1.1050  1.2022  1.1879  1.2807  1.1591  1.1458  1.2358  1.2208
          1.2060  1.1917  1.1776  1.1639  1.2464  1.1364  1.2172  1.2026  1.1883
          1.1743  1.2500  1.2500  1.2500  1.2500  1.2500
LPG          10.14   .6903  1.0774  1.1628  2.7778  1.3980  2.2978  2.5157
          1.8405  2.3236  1.9344  1.4852  2.4390  1.9048  1.5576  1.8405  1.5813
          1.4085  1.4620  1.4409  1.4205  1.4006  1.4503  1.4295  1.4094  1.4560
          1.3699  1.4801  1.3950  1.4384  1.4180  1.4590  1.3781  1.4775  1.3978
          1.4360  1.4156  1.4156  1.4156  1.4156  1.4156
NAT G        6.45  2.4806  2.2693  2.0710  1.0145   .5739   .5706   .9929
          1.6854  1.1050  1.6393  2.4194  1.1811  2.4643  2.5316   .9877  1.4670
          1.3253  1.4269  1.2896  1.3889  1.3699  1.3514  1.3333  1.3158  1.4069
          1.3874  1.3684  1.3499  1.3320  1.3145  1.3972  1.3780  1.3592  1.3410
```

```
          1.3233  1.3993  1.3993  1.3993  1.3993  1.3993
COMMERCIAL
  5 ENERGY TYPES
  5 DOE REGIONS
DOE REGION  1.
ELECT         26.37  -.5309  -.8006  -.0769   .3462   .5366  -.1906   .9549
             .3405   .5279  -.6752   .4154  -.0376   .8653  2.0888  -.8403  -.4053
             .0740   .0370   .0739   .0739   .0369   .0738   .0737   .0737   .0368
             .0736   .0735   .0367   .0735   .0734   .0367   .0733   .0733   .0366
             .0732   .0731   .0731   .0731   .0731   .0731
DIST           5.10   .5882   .9747  1.9305  3.2197  2.0184  2.6978  3.6778
            2.8716  2.7915  2.7156  2.0218  1.2195  2.1084  1.9174  1.8813  1.4205
            1.6807  1.5151  1.6282  1.6021  1.7083  1.5504  1.6539  1.6270  1.6010
            1.5758  1.6706  1.6432  1.6166  1.5909  1.5660  1.6520  1.6251  1.5991
            1.5740  1.6529  1.6529  1.6529  1.6529  1.6529
RESID          2.84  4.2254  4.3919  3.5599  4.6875   .8955  4.1420  3.4091
            4.1209  5.2770  2.5063  1.7115  2.8846  4.4392  3.5794 -1.7279  2.1978
            2.5806  2.3061  2.6639  2.3952  2.5341  2.4715  2.4119  2.5362  2.4735
            2.4138  2.5253  2.4630  2.5641  2.5000  2.4390  2.3810  2.6163  2.4079
            2.4896  2.4292  2.4292  2.4292  2.4292  2.4292
NAT G          6.45  3.7209  1.3453  1.7699  1.3043   .8584   .5674  1.2694
            2.9248   .1353  1.3514  4.2667  -.5115  3.0848  4.4888  1.4320  1.6471
            1.6204  1.4806  1.5713  1.5470  1.6322  1.4989  1.5823  1.5576  1.6360
            1.5091  1.5857  1.5610  1.5370  1.6083  1.4898  1.6514  1.5343  1.5111
            1.5762  1.5517  1.5517  1.5517  1.5517  1.5517
COAL           2.03  4.4335   .9434   .9346 -1.3889  2.3474   .4587  -.4566
            6.8807 -4.2918  2.6906  -.8734 -1.7621   .0000   .0000   .8969 -2.2222
             .9091   .4505   .8969   .4444   .8850   .4386   .8734   .4329   .8621
             .8547   .4237   .8439   .4184   .8333   .8264   .4098   .8163   .8097
             .8032   .3984   .3984   .3984   .3984   .3984
DOE REGION  2.
ELECT         20.63   .4363  1.0618   .2388   .3811  1.1865   .9381   .7435
             .6919   .8246   .2726   .4531  1.1728  1.1146   .8377  1.4429  -.0431
             .0431   .0862   .0431   .0861   .0430   .0860   .0430   .0859   .0429
             .0429   .0857   .0428   .0856   .0428   .0855   .0427   .0854   .0427
             .0853   .0426   .0426   .0426   .0426   .0426
DIST           4.11   .7299  4.1063  2.3202  3.1746  3.0769  3.1983  3.9256
            3.1809  3.2755  3.1716  2.1700  1.5929  2.6132  2.2071  2.1595  1.6260
            1.6000  1.5748  1.7054  1.5244  1.6517  1.6248  1.5988  1.7167  1.5471
            1.6621  1.6349  1.6086  1.5831  1.5584  1.6624  1.6352  1.6089  1.5834
            1.6786  1.5330  1.5330  1.5330  1.5330  1.5330
RESID          2.89  7.2664  3.5484  2.8037  4.5455  3.4783  4.2017  5.1075
            4.0921  3.9312  4.4917  2.9412  1.3187  3.0369  2.7368  1.2295  1.4170
            2.3952  2.5341  2.4715  2.5974  2.3508  2.4735  2.5862  2.5210  2.4590
            2.4000  2.5000  2.4390  2.5298  2.4673  2.5496  2.4862  2.4259  2.5000
            2.4390  2.5063  2.5063  2.5063  2.5063  2.5063
NAT G          5.13  3.7037  2.6316  2.0147  1.4363   .5310   .5282   .8757
            1.2153  1.7153  1.6863  2.4876  2.2654  2.8481  2.3077  1.3534  1.4837
            1.6082  1.5827  1.5581  1.5342  1.5110  1.6238  1.4647  1.5748  1.6796
            1.5248  1.5019  1.6030  1.5777  1.5532  1.5294  1.6223  1.5963  1.4590
            1.6593  1.5234  1.5234  1.5234  1.5234  1.5234
COAL           2.03  4.4335   .9434   .9346 -1.3889  2.3474   .4587  -.4566
            6.8807 -4.2918  2.6906  -.8734 -1.7621   .0000   .0000   .8969 -2.2222
             .9091   .4505   .8969   .4444   .8850   .4386   .8734   .4329   .8621
```

```
          .8547   .4237   .8439   .4184   .8333   .8264   .4098   .8163   .8097
          .8032   .3984   .3984   .3984   .3984   .3984
DOE REGION  3.
ELECT       20.71  1.4003   .0952  -.0476  -.8567   .3841  1.1478  1.2766
          .0934   .0466   .2797  -.8368  -.6095  -.9434   .9524   .2830   .0470
          .0470   .0940   .0469   .0469   .0938   .0469   .0468   .0936   .0468
          .0468   .0935   .0467   .0467   .0933   .0466   .0466   .0931   .0465
          .0465   .0929   .0929   .0929   .0929   .0929
DIST          4.54   .6608  1.3129  1.9438  3.6017  2.2495  3.8000  3.4682
         3.1657  2.8881  2.9825  2.2147  1.5000  2.4630  2.0833  2.1978  1.5361
         1.6641  1.6369  1.6105  1.5850  1.5603  1.6760  1.6484  1.6216  1.5957
         1.5707  1.6753  1.5209  1.6230  1.5971  1.6929  1.5458  1.6393  1.6129
         1.7007  1.5608  1.5608  1.5608  1.5608  1.5608
RESID         2.87  7.3171  3.2468  3.1447  4.5732  3.4985  3.9437  5.1491
         4.1237  3.9604  4.5238  2.7335  1.5521  3.0568  2.7542  1.0309  1.6327
         2.4096  2.5490  2.4857  2.4254  2.5501  2.4867  2.4263  2.5381  2.4752
         2.4155  2.5157  2.4540  2.5449  2.4818  2.4217  2.5035  2.5780  2.3810
         2.5840  2.3929  2.3929  2.3929  2.3929  2.3929
NAT G         5.87  3.5775  1.6447  1.9418  1.2698   .7837   .4666  1.2384
         2.7523   .1488  1.1887  4.1116  -.2821  2.9703  4.2582  1.3175  1.5605
         1.5365  1.6394  1.4888  1.5892  1.5644  1.5403  1.6336  1.4925  1.5837
         1.5590  1.5351  1.6199  1.5941  1.5690  1.5448  1.5213  1.5984  1.5733
         1.5489  1.5253  1.5253  1.5253  1.5253  1.5253
COAL          1.50  3.3333  2.5807   .0000  -.6289  2.5316   .6173 -1.8405
         4.3750 -1.1976  3.6364 -2.9240  -.6024  -.6061  -.6098  1.2270  1.8182
          .5952   .5917   .5882  1.1696   .5780   .5747   .5714   .5682  1.1299
          .5587   .5556   .5525  1.0989   .5435   .5405   .5376  1.0695   .5291
          .5263  1.0471  1.0471  1.0471  1.0471  1.0471
DOE REGION  4.
ELECT       20.55   .8759   .3859   .5286  1.7208   .9398  1.5363   .5961
         1.0027  2.3014   .2206  -.1320  2.6884  1.1588   .5091   .8020   .9213
          .0830   .0415   .0829   .0414   .0828   .0414   .0827   .0413   .0826
          .0413   .0825   .0412   .0824   .0412   .0823   .0411   .0822   .0411
          .0821   .0410   .0410   .0410   .0410   .0410
DIST          4.07   .9828  1.9465  2.3866  2.7972  3.6281  2.1882  4.4968
         2.8688  3.3865  3.6609  1.1152  2.7574  3.0411  2.2569  2.7165  2.3140
         1.6155  1.5898  1.7214  1.5385  1.6667  1.6393  1.6129  1.5873  1.5625
         1.6783  1.5131  1.6260  1.7333  1.5727  1.5484  1.6518  1.6250  1.5990
         1.6949  1.5476  1.5476  1.5476  1.5476  1.5476
RESID         2.84  2.1127  3.4483  4.0000  3.8462  4.0123  4.1543  3.1339
         3.8674  3.7234  4.3590  2.4570  3.1175  2.5581  2.7211  2.6490  3.0107
         2.5052  2.4440  2.5845  2.3256  2.4621  2.5878  2.5225  2.4605  2.4014
         2.5126  2.4510  2.5518  2.4883  2.4279  2.5185  2.4566  2.5388  2.4759
         2.4161  2.4902  2.4902  2.4902  2.4902  2.4902
NAT G         4.95  1.8182  4.3651  3.2319  1.1050   .7286  1.2658  1.2500
         1.7637  2.2530  2.7119  1.4852  2.1138  2.5478  1.8634   .6098  1.9697
         1.6345  1.4620  1.5850  1.5603  1.5363  1.6506  1.4885  1.6000  1.5748
         1.5504  1.5267  1.6291  1.4797  1.5796  1.5550  1.6490  1.5064  1.5982
         1.5730  1.5487  1.5487  1.5487  1.5487  1.5487
COAL          2.24   .8929   .8850   .0000  1.3158  1.7316   .4255  -.8475
          .8547   .8475   .0000  -.8403  8.4746  1.1719 -7.3359  1.6667   .0000
          .8197   .4065   .8097   .8032   .3984   .7937   .7874   .7812   .3876
          .7722   .7663   .7605   .7547   .7491   .3717   .7407   .7353   .7299
          .7246   .7194   .7194   .7194   .7194   .7194
```

```
DOE REGION  5.
ELECT        21.80   .4587   .1370   .1368   .4098   .5896   .9017   .9383
            .4869   .8811   .0437  -.0437   .9607   .4758  1.1192   .6386   .3384
            .0422   .0843   .0421   .0842   .0421   .0841   .0420   .0840   .0419
            .0839   .0419   .0838   .0418   .0836   .0418   .0835   .0417   .0834
            .0417   .0833   .0833   .0833   .0833   .0833
DIST          4.62   .6494  1.5054  1.9068  3.1185  2.4194  2.7559  3.8314
           2.9520  2.8674  2.9617  1.8613  1.6611  2.2876  2.0767  2.1909  1.5314
           1.6591  1.6320  1.6058  1.5805  1.5559  1.6713  1.6438  1.6172  1.5915
           1.5666  1.6709  1.6435  1.6169  1.5912  1.5663  1.6607  1.6336  1.6074
           1.5819  1.6685  1.6685  1.6685  1.6685  1.6685
RESID         2.85  4.9123  4.0134  3.5370  4.6584  1.1869  4.3988  3.6517
           4.0650  4.9479  2.7295  2.1739  2.6005  4.1475  3.3186 -1.0707  2.1645
           2.5424  2.4793  2.4194  2.5591  2.4952  2.4345  2.3766  2.5000  2.6132
           2.3769  2.4876  2.5890  2.3659  2.4653  2.5564  2.4927  2.4320  2.5140
           2.4523  2.5266  2.5266  2.5266  2.5266  2.5266
NAT G         5.43  2.9466  2.6834  2.4390  1.1905   .6723   .8347   .9934
           1.9672  1.2862  1.9048  2.8037  1.2121  2.8443  2.9112  1.1315  1.6783
           1.5131  1.6260  1.6000  1.5748  1.5504  1.5267  1.5038  1.6049  1.5796
           1.5550  1.5312  1.6241  1.5982  1.4607  1.6611  1.5250  1.5021  1.5856
           1.5609  1.6393  1.6393  1.6393  1.6393  1.6393
COAL          1.81  2.7624  1.6129   .5291  -.5263  2.1164  1.0363 -1.5385
           5.2083 -2.9703  2.5510 -1.4925  2.0202   .4950  -.9852  1.4925  -.4902
            .9852   .4878   .9709   .4808   .4785   .9524   .4717   .9390   .4651
            .9259   .4587   .9132   .4525   .9009   .4464   .8889   .4405   .8772
            .8696   .4310   .4310   .4310   .4310   .4310
```

ATTACHMENT 8.11
SCOPE OF ARCHITECT - ENGINEERS SERVICES

CESAM-EN-DM

17 April 1995
rev'd: June 23, 1995

ELECTRICAL DEMAND

REDUCTION STUDY

ABERDEEN PROVING GROUND, MARYLAND

Performed as part of the

ENERGY ENGINEERING ANALYSIS PROGRAM (EEAP)

SCOPE OF WORK
FOR A
LIMITED ENERGY STUDY

ELECTRIC DEMAND PROFILE &
DEMAND/COST REDUCTION

TABLE OF CONTENTS

1. BRIEF DESCRIPTION OF WORK: The Architect-Engineer (AE) shall:

1.1 Perform a field investigation to establish electrical demand profile for all Government owned substations and feeders at Aberdeen Proving Ground (Edgewood and Aberdeen areas). Recommend generically applicable technologies for reduction of electrical demand and/or cost based upon the demand profile and categories of usage for facilities connected to the feeders.

1.2 Evaluate specific ECOs to determine their energy savings potential and economic feasibility.

1.3 Provide project documentation for recommended ECOs as detailed herein.

1.4 Prepare a comprehensive report to document all work performed, the results and all recommendations.

2. GENERAL

2.1 This study is limited to the evaluation of the specific buildings, systems, or ECOs listed in Annex A, DETAILED SCOPE OF WORK.

2.2 The information and analysis outlined herein are considered to be minimum requirements for adequate performance of this study.

2.3 For the buildings, systems or ECOs listed in Annex A, all methods of energy conservation which are reasonable and practical shall be considered, including improvements of operational methods and procedures as well as facilities. All energy conservation opportunities which produce energy or dollar savings related to electrical consumption shall be documented in this report. Any energy conservation opportunity considered infeasible shall also be documented in the report with reasons for elimination.

2.4 The study shall consider the use of all energy sources applicable to each building, system, or ECO, as relates to reduction of electrical consumption or shifting of demand to a more favorable rate structure time.

2.5 The "Energy Conservation Investment Program (ECIP) Guidance", described in letter from DAIM-FDF-U, dated 10 Jan 1994 (including current updates) establishes criteria for ECIP projects and shall be used for performing the economic analyses of all ECOs and projects. The program, Life Cycle Cost In Design (LCCID), has been developed for performing life cycle cost calculations in accordance with ECIP guidelines and is referenced in the ECIP Guidance. If any program other than LCCID is proposed for life cycle cost analysis, it must use the mode of calculation specified

in the ECIP Guidance. The output must be in the format of the ECIP LCCA summary sheet, and it must be submitted for approval to the Contracting Officer.

2.6 Computer modeling will not be used to determine the energy savings of ECOs which would replace or significantly change an existing heating, ventilating, and air-conditioning (HVAC) system.

2.7 Energy conservation opportunities determined to be technically and economically feasible shall be developed into projects acceptable to installation personnel. This may involve combining similar ECOs into larger packages which will qualify for ECIP or FEMP funding, and determining in coordination with installation personnel the appropriate packaging and implementation approach for all feasible ECOs.

2.7.1 Projects which qualify for ECIP funding shall be identified, separately listed, and prioritized by the Savings to Investment Ratio (SIR).

2.7.2 All feasible non-ECIP projects shall be ranked in order of highest to lowest SIR.

2.7.3 At some installations Energy Conservation and Management (ECAM) funding will be used instead of ECIP funding. The criteria for each program is the same. The Director of Public Works will indicate which program is used at this installation. This Scope of Work mentions only ECIP, however, ECAM is also meant.

2.8 Metric Reporting Requirements: In this study, the analyses of the ECOs may be performed using English or Metric units as long as they are consistent throughout the report. The final results of energy savings for individual recommended projects and for the overall study will be reported in units of MegaBTU per year and in MegaWattHours per year. Paragraph 7.5.3 details requirements for the contents of the final submittal.

3. PROJECT MANAGEMENT

3.1 Project Managers. The AE shall designate a project manager to serve as a point of contact and liaison for work required under this contract. Upon award of this contract, the individual shall be immediately designated in writing. The AE's designated project manager shall be approved by the Contracting Officer prior to commencement of work. This designated individual shall be responsible for coordination of work required under this contract. The Contracting Officer will designate a project manager to serve as the Government's point of contact and liaison for all work required under this contract. This individual will be the Government's representative.

3.2 Installation Assistance. The Commanding Officer or authorized representative at the installation will designate an individual to assist the AE in obtaining information and establishing contacts necessary to accomplish the work required under this contract. This individual will be the installation representative.

3.3 Public Disclosures. The AE shall make no public announcements or disclosures relative to information contained or developed in this contract, except as authorized by the Contracting Officer.

3.4 Meetings. Meetings will be scheduled whenever requested by the AE or the Contracting Officer for the resolution of questions or problems encountered in the performance of the work. The AE's project manager and the Government's representative shall be required to attend and participate in all meetings pertinent to the work required under this contract as directed by the Contracting Officer. These meetings, if necessary, will be in addition to the presentation and review conferences.

3.5 Site Visits, Inspections, and Investigations. The AE shall visit and inspect/investigate the site of the project as necessary and required during the preparation and accomplishment of the work.

3.6 Records

3.6.1 The AE shall provide a record of all significant conferences, meetings, discussions, verbal directions, telephone conversations, etc., with Government representative(s) relative to this contract in which the AE and/or designated representative(s) thereof participated. These records shall be dated and shall identify the contract number, and modification number if applicable, participating personnel, subject discussed and conclusions reached. The AE shall forward to the Contracting Officer within ten calendar days, a reproducible copy of the records.

3.6.2 The AE shall provide a record of requests for and/or receipt of Government-furnished material, data, documents, information, etc., which if not furnished in a timely manner, would significantly impair the normal progression of the work under this contract. The records shall be dated and shall identify the contract number and modification number, if applicable. The AE shall forward to the Contracting Officer within ten calendar days, a reproducible copy of the record of request or receipt of material.

3.7 Interviews. The AE and the Government's representative shall conduct entry and exit interviews with the Director of Public Works before starting work at the installation and after completion of the field work. The Government's representative shall schedule the interviews at least one week in advance.

3.7.1 Entry. The entry interview shall describe the intended

procedures for the survey and shall be conducted prior to commencing work at the facility. As a minimum, the interview shall cover the following points:

a. Schedules.

b. Names of energy analysts who will be conducting the site survey.

c. Proposed working hours.

d. Support requirements from the Director of Public Works. The A-E may be required to obtain clearance for access to some areas of the installation (Edgewood and Aberdeen areas).

3.7.2 Exit. The exit interview shall be held when the field work is essentially complete; it shall briefly describe the items surveyed and probable areas of energy conservation. The interview shall also solicit input and advice from the Director of Public Works.

4. SERVICES AND MATERIALS. All services, materials (except those specifically enumerated to be furnished by the Government), labor, supervision, and travel necessary to perform the work and render the data required under this contract are included in the lump sum price of the contract.

5. PROJECT DOCUMENTATION. All energy conservation opportunities which the AE has considered shall be included in one of the following categories and presented in the report as such:

5.1 ECIP Projects. To qualify as an ECIP project, an ECO, or several ECOs which have been combined, must have a construction cost estimate greater than $300,000, a Savings to Investment Ratio (SIR) greater than 1.25 and a simple payback period of less than ten years. The overall project and each discrete part of the project shall have an SIR greater than 1.25. All projects meeting the above criteria shall be arranged as specified in paragraph 2.7.1. A life cycle cost analysis summary sheet shall be developed for each ECO and for the overall project when more than one ECO are combined. The energy savings for projects consisting of multiple ECOs must take into account the synergistic effects of the individual ECOs.

5.2 Non-ECIP Projects. Projects which do not meet ECIP criteria with regard to cost estimate, but which have an SIR greater than 1.25 shall be documented. Projects or ECOs in this category shall be arranged as specified in paragraph 2.7.2 and shall be provided with the following documentation: the life cycle cost analysis (LCCA) summary sheet completely filled out, a description of the work to be accomplished, backup data for the LCCA (energy savings calculations and cost estimate), and the simple payback

period. The energy savings for projects consisting of multiple ECOs must take into account the synergistic effects of the individual ECOs. In addition these projects shall have the necessary documentation prepared, as required by the Government's representative, for one of the following categories:

a. Federal Energy Management Program (FEMP) Projects. A FEMP (or O&M Energy) project is one that results in needed maintenance or repair to an existing facility, or replaces a failed or failing existing facility, and also results in energy savings. The criteria are similar to the criteria for ECIP projects, ie, SIR $\geq$ 1.25, and simple payback period of less than ten years. Preparation of programming documents is not included as a task under this scope of work. In the FEMP program, a system may be defined as "failed or failing" if it is inefficient or technically obsolete. However, if this strategy is used to justify a proposed project, the equipment to be replaced must have been in use for at least three years.

b. Low Cost/No Cost Projects. These are projects which the Director of Public Works (DPW) can perform using his resources. Documentation shall be as required by the DPW.

5.3 Nonfeasible ECOs. All ECOs which the AE has considered but which are not feasible, shall be documented in the report with reasons and justifications showing why they were rejected.

6. DETAILED SCOPE OF WORK. The Detailed Scope of Work is contained in Annex A.

7. WORK TO BE ACCOMPLISHED.

7.1 Perform a Limited Site Survey. The AE shall obtain all necessary data to evaluate the ECOs or projects by conducting a site survey. However, the AE is encouraged to use any data that may have been documented in a previous study. The AE shall document his site survey on forms developed for the survey, or on standard forms, and submit these completed forms as part of the report. All test and/or measurement equipment shall be properly calibrated prior to its use.

7.2 Recommend Selected Projects. The AE shall recommend the projects and ECOs as stated in Annex A. If the project or ECO is acceptable as is, that is, there are only operational changes to be made, the project shall then be analyzed based on current ECIP criteria. If the project can only be partially accepted for operational purposes, the A-E shall incorporate the constraints in a reevaluation of cost and consumption impact.

7.3 Evaluate Selected ECOs. The AE shall analyze the recommended ECOs which have been recommended and accepted. These ECOs shall be analyzed in detail to determine their feasibility. Savings to Investment Ratios (SIRs) shall be determined using

current ECIP guidance. The AE shall provide all data and calculations needed to support the recommended ECO. All assumptions and engineering equations shall be clearly stated. Calculations shall be prepared showing how all numbers in the ECO were figured. Calculations shall be an orderly step-by-step progression from the first assumption to the final number. Descriptions of the products, manufacturers catalog cuts, pertinent drawings and sketches shall also be included. A life cycle cost analysis summary sheet shall be prepared for each ECO and included as part of the supporting data.

7.4 Combine ECOs Into Recommended Projects. During the Interim Review Conference, as outlined in paragraph 7.5.2, the AE will be advised of the DEH's preferred packaging of recommended ECOs into projects for implementation. Some projects may be a combination of several ECOs, and others may contain only one. These projects will be evaluated and arranged as outlined in paragraphs 5.1, 5.2, and 5.3. Energy savings calculations shall take into account the synergistic effects of multiple ECOs within a project and the effects of one project upon another. The results of this effort will be reported in the Final Submittal per par 7.5.3.

7.5 Submittals, Presentations and Reviews. The work accomplished shall be fully documented by a comprehensive report. The report shall have a table of contents and shall be indexed. Tabs and dividers shall clearly and distinctly divide sections, subsections, and appendices. All pages shall be numbered. Names of the persons primarily responsible for the project shall be included. The AE shall give a formal presentation of the interim submittal to installation, command, and other Government personnel. Slides or view graphs showing the results of the study to date shall be used during the presentation. During the presentation, the personnel in attendance shall be given ample opportunity to ask questions and discuss any changes deemed necessary to the study. A review conference will be conducted the same day, following the presentation. Each comment presented at the review conference will be discussed and resolved or action items assigned. It is anticipated that the presentation and review conference will require approximately one working day. The presentation and review conference will be at the installation on the date agreeable to the Director of Public Works, the AE and the Government's representative. The Contracting Officer may require a resubmittal of any document(s), if such document(s) are not approved because they are determined by the Contracting Officer to be inadequate for the intended purpose.

7.5.1 Interim Submittal. A report of field study findings will be submitted and reviewed for acceptance. Results of the field study shall include an executive summary, recording of field study results, record of feeder or substation monitoring, interview records to include BG&E and Government personnel, recommended application of energy or cost savings measures, illustrate methods

and justifications for approaches taken, and a plan of the work remaining to complete the study. The survey forms completed during field study may be submitted in final form with the submittal. They should be clearly marked at the time of submittal that they are to be retained. They shall be bound in a standard three-ring binder which will allow repeated disassembly and reassembly of the material contained within. Cost/electrical demand reduction measures shall be listed for generic application. Demand on specific feeders shall be noted against recommended reduction measures for further study as given under Appendix A. At the Interim submittal and review conference, the Government and AE representatives shall coordinate with the Director of Public Works to provide the AE with direction for selection, packaging, and fiscal year for which programming or implementation documents shall be prepared.

7.5.2 Pre-Final Submittal. The AE shall prepare and submit the final report when all sections of the report are 100% complete and all comments from the interim submittal have been resolved. The AE shall submit the Scope of Work for the study and any modifications to the Scope of Work as an appendix to the submittal. The report shall contain a narrative summary of conclusions and recommendations, together with all raw and supporting data, methods used, and sources of information. The report shall integrate all aspects of the study. The recommended projects, as determined in accordance with paragraph 5, shall be presented in order of priority by SIR. The lists of ECOs (demand/cost reduction measures) specified in paragraph 7.5.1 shall also be included for continuity. The final report and all appendices shall be bound in standard three-ring binders which will allow repeated disassembly and reassembly. The final report shall be arranged to include:

a. An Executive Summary to give a brief overview of what was accomplished and the results of this study using graphs, tables and charts as much as possible (See Annex B for minimum requirements).

b. The narrative report describing the problem to be studied, the approach to be used, and the results of this study.

c. Documentation for the recommended projects (includes LCCA Summary Sheets).

1) All ECOs eliminated from consideration shall be grouped into one listing with reasons for their elimination as discussed in par 5.3.

2) All ECOs which were analyzed shall be grouped into two listings, recommended and non-recommended, each arranged in order of descending SIR. These lists may be subdivided by building, substation, feeder or area as appropriate for the study.

d. Appendices to include as a minimum:

1) Energy cost development and backup data

2) Detailed calculations

3) Cost estimates

4) Computer printouts (where applicable)

5) Annotated comments from the Interim submittal

6) Scope of Work

7) Demand Side Management literature from local utility

7.5.3 Final Submittal. Any revisions or corrections resulting from comments made during the review of the Pre-Final report or during the presentation and review conference shall be incorporated into the Final report. These revisions or corrections may be in the form of replacement pages, which may be inserted in the Pre-Final report, or complete new volumes. Pen ank ink changes or errata sheets will not be acceptable. If replacement pages are to be issued, it shall be clearly stated with the Pre-Final submittal that the submitted documents will be changed only with comments made during the Pre-Final conference and that volumes should be retained. Failure to do so will require resubmission of complete volumes. If new volumes are submitted, they shall be in standard three ring binders and shall contain all information presented in the Pre-Final report with any necessary changes made. Detailed instructions of what to do with the replacement pages shall be securely attached to the replacement pages.

ANNEX A

ELECTRICAL DEMAND PROFILE
AND
CONSUMPTION/COST REDUCTION

ABERDEEN PROVING GROUND

1. GENERAL The Directorate of Public Works (DPW) at Aberdeen Proving Ground, MD has available on-line information for electrical consumption for the Aberdeen and Edgewood areas, as a whole. However, no data is available for individual users, facilities, feeders, or substations. In the absence of such data, no basis exists for informed decision on potential methods of reducing demand or shifting it to a more favorable rate structure time. The DPW has one-line drawings and attribute database fields for all Government-owned substations and feeders, but no recorded data for electrical demand profile. Purpose of this study is to establish the demand profile by substation and feeder, identify anomalous consumption, peak hour users, and cost drivers on the feeders, investigate the physical and operational features of the consumers, recommend operational and physical changes for reducing consumption and/or cost, then perform an analysis of the impact of implementing selected recommendations. General tasks to be performed are as follows:

a. Field Study of Substations/Feeders: Monitor, record and report the demand profile at all substations, by feeder. Identify feeders for which anomalous loading occurs, where large demand exists during peak rate structure hours, or where load is otherwise identified for reduction of consumption or cost in electrical billing. Based upon identification of the facilities and tenants supplied by the feeders, provide a listing of recommended electrical technology applications for which cost or energy savings can be realized.

b. Investigation of Specific Consumers: Based upon the above field study, investigate the potential energy and cost savings for recommended operational or physical changes to demand on selected feeders. This investigation shall result in recommended applications of operational/physical changes for specific consumers.

c. Evaluation of Cost/Consumption Impact: Perform life cycle cost analysis of the energy/cost reduction impact of implementing the recommendations.

2. AUTHORIZATION The feasibility study for this project is authorized by memorandum, CEMP-ET, subject: "Energy Engineering Analysis Program (EEAP) - FY95", dated 29 December 1994. The AE

shall make reference to this authority in the study.

3. STUDY INSTRUCTIONS If the Design Manuals, Guide Specifications, and/or Project Engineering Instructions do not cover a specific condition in question, the AE shall contact the Contracting Officer before proceeding. If there is a conflict in Engineering Instructions or other reference data, such questions or conflicts should be brought to the attention of the Contracting Officer before proceeding.

4. INSTALLATION REPRESENTATIVE The Installation Representative for this study will be Mr. Gary Testerman, Directorate of Public Works, (410) 278-5237.

5. COMPLETION AND PAYMENT SCHEDULE The following schedule shall be used as a guide in approving payments on this contract. The interim report shall be due not later than 180 days after the Authorized Receipt of Order (ARO). The Pre-Final report shall be due not later than 30 days after the interim report review conference. The Final report shall be due not later than 21 days after the Pre-Final review conference.

MILESTONE	PERCENT OF CONTRACT AMOUNT AUTHORIZED FOR PAYMENT
Entry Interview	10
Completion of Field Work	35
Receipt of Interim Submittal	50
Completion of Interim Presentation & Review	65
Completion of Pre-Final	95

6. METHOD OF PAYMENT

a. Title I. The AE shall prepare and submit to the US Army Engineer District, Baltimore, MD, partial payment estimates on ENG Form 93. All partial payments shall be based on work completed as of the 15th day of the reporting month and shall be submitted to the office of the Contracting Officer by the 18th day of the month. Copy of the ENG Form 93 should be provided to the Project Manager. Payment under this order, for which property or services are provided in a series of partial executions or deliveries, will be made within 30 days after receipt of an invoice which has been properly executed by the AE.

b. Additional Conferences. Payments for furnishing the services of technically qualified representatives to attend additional conferences, when so requested in writing by the Contracting Officer, will be amde at a rate per hour for the discipline involved plus travel expenses computed in accordance with the Joint travel Regulations in effect at the time travel is performed and actual cost of transportation.

7. DETAILED TASKS

a. Field Study of Substations/Feeders and Interim Report: The A-E will monitor electrical demand, in kWH, on all feeders at all Government substations for the Edgewood and Aberdeen areas. Monitoring will be performed for a continuous twenty-four hour weekday period on each feeder. Monitoring may be performed at the substation or on each feeder separately outside of the substation. If monitoring shall be performed at the substation, the A-E shall provide a listing of the names and qualifications for all personnel to have access to the substations subject to DPW review and approval. Monitoring shall take advantage of existing power circuit monitors to the extent applicable. Results of monitoring shall be reported on the one-line drawings, "Substation and Feeder Data: Edgewood and Aberdeen", provided by the DPW. The DPW shall provide a Building Information Schedule (BIS) to the A-E identifying all facilities, their sizes, and their usage. Usage is denoted in accordance with AR 415-28 and is given by general category (operational, maintenace, R&D, storage and supply, administrative, etc.) of occupancy. Based upon the demand profile, size, and general category of usage, the A-E will provide generically applicable recommendations for physical changes for electrical demand reduction or load shifting to off-peak hours. These recommendations will be based upon the A-E's experience and knowledge of various successful applications of current technology to general categories of facilities. Recommendations shall include any available BG&E demand side management programs available to APG. The DPW shall make final determination of the opportunities to pursue for the Pre-Final report.

b. Pre-Final Submittal. The A-E shall report on the investigation of applications of physical or operational changes to electrical demand for energy/cost savings. For selected feeders, the A-E shall examine the facilities, equipment and processes which constitute the particular feeder load. This investigation should evenly distribute feeders, facilities, equipment and processes between categories of facility usage and recommendations of applicable technolgies for cost/energy savings, i.e, investigation should include all general categories of usage and a maximum number of recommended technology applications. During the course of this investigation the A-E shall interview personnel utilizing facilities and equipment creating the feeder loads to determine any constraints and evaluate the potential of operational changes for energy/cost savings. The A-E shall identify application of technologies or operational changes to specific facilities, equipment and processes, and make recommendations for their implementation. The A-E shall discuss and explain why any specific technologies, facilities, operational changes, equipment, or other earlier recommendation are not recommended for further evaluation. The A-E shall prepare a list of specific operational and physical changes showing the greatest potential for energy/cost savings, supported by calculations illustrating the life cylce energy and

dollar savings, SIR, and simple pay-back period. Level of analysis shall be sufficient to support and justify recommendation for selected energy/cost savings opportunities. No preparation of DD Form 1391s is included as a part of this effort.

d. Final Submittal. The AE shall prepare and submit the final report when all sections of the report are 100% complete and all comments from the Interim and Pre-Final submittals have been resolved.

8. SAMPLE ENERGY/COST SAVINGS OPPORTUNITIES Following is a list of operational and physical changes which may be expected for consideration and evaluation as part of this scope of work. This list is provided for illustrative purposes and is not intended as a constraint or minimum requirement of the study.

a. Usage of BG&E available demand side management programs for energy/cost savings. Lighting and illumination shall not be included. Requirements or constraints for APG will be stated as will be BG&E contributions. Available literature shall be included as an Appendix.

b. Operational changes such as running emergency/backup generators during peak hours to supplement the primary electrical supply (i.e. shave peak demand). This shall include possibility of performing maintenance running during peak hours for shaving load.

c. Use of diurnal, ice storage, brine systems or other thermal storage systems where prime source is electrical.

d. Use of dessicant dehumidification systems to replace reciprocating, centrifugal, screw or other electrically driven cooling/dehumdification systems. Use of steam absorption chillers in lieu of electric for replacement/new construction.

e. Installation of programmable controllers for operation of HVAC equipment. Operation may be for time, load shedding, or other parameters in order to reduce or shift electrical demand. Note that any recommendation for such controllers should be coordinated with the DPW Master Planning office for possible constraints in relation to a planned Installation-wide UMCS system.

f. Replacement or consoldiation of electrically powered HVAC equipment with more economic prime sources.

g. Use of capacitor banks/synchronous motors to improve K factor.

h. Conversion to energy efficient motors (to include resizing, variable volume, or other reductions in consumption).

i. Turn off unused, unnecessary, or redundant equipment.

j. Balancing of electrical load on circuits.

k. Modernizing of equipment used for mission/operational requirements.

Survey and analysis of demand created by lighting will not be included as a part of this scope of work.

9. GOVERNMENT FURNISHED DATA

a. Drawings, "Substation and Feeder Data: Edgewood and Aberdeen

b. Building Information Schedule (BIS)

c. DAIM-FDF-U letter dated 10 January 1994, "Energy Conservation Investment Program (ECIP) Guidance"

d. Architectural and Engineering Instructions (AEI)

10. SUBMITTAL DISTIBUTION

ORGANIZATION	CORRESPONDENCE	INTERIM & PRE FINAL	FINAL
Commander U.S Army Aberdeen Proving Ground Support Activity ATTN: STEAP-FE-P (Mr. Testerman) Aberdeen Proving Ground, MD 21005-5001	(1)	(3)	(3)
Commander U.S. Army District, Baltimore ATTN: CENAB-EN-MP (Mr. Gross) P.O. Box 1715 Baltimore, MD 21203-1715	(1)	(3)	(3)
Commander U.S. Army District, Mobile ATTN: CESAM-EN-DM (Mr. Battaglia) P.O. Box 2288 Mobile, AL 36628-1000	(1)	(1)	(1)
Commander USAMC, Installations & Services Activity Rock Island Arsenal Bldg 60 ATTN: AMXEN-C (Mr. John Nache) Rock Island, Ill 61299-7190		(1)	(1)
U.S. Army Corps of Engineers ATTN: CEMP-ET (Mr. Gentil) 20 Massachusetts Avenue, NW Washington, DC 20314-1000			(1)*

ANNEX B

EXECUTIVE SUMMARY GUIDELINE

1. Introduction.

2. Building Data (types, number of similar buildings, sizes, etc.)

3. Present Energy Consumption of Buildings or Systems Studied.

   o Total Annual Energy Used.

   o Source Energy Consumption.

   Electricity - KWH, Dollars, BTU
   Fuel Oil - GALS, Dollars, BTU, MWH
   Natural Gas - THERMS, Dollars, BTU, MWH
   Propane - GALS, Dollars, BTU, MWH
   Other - QTY, Dollars, BTU, MWH

4. Reevaluated Projects Results.

5. Energy Conservation Analysis.

   o ECOs Investigated.

   o ECOs Recommended.

   o ECOs Rejected. (Provide economics or reasons)

   o ECIP Projects Developed. (Provide list)*

   o Non-ECIP Projects Developed. (Provide list)*

   o Operational or Policy Change Recommendations.

* Include the following data from the life cycle cost analysis summary sheet: the cost (construction plus SIOH), the annual energy savings (type and amount), the annual dollar savings, the SIR, the simple payback period and the analysis date.

6. Energy and Cost Savings.

   o Total Potential Energy and Cost Savings.

   o Percentage of Energy Conserved.

- Energy Use and Cost Before and After the Energy Conservation Opportunities are Implemented.

U.S. Army Logistics Agency (1)*
ATTN: LOEA-PL (Mr. Keath)
New Cumberland Army Depot
New Cumberland, PA 17070-5007

*Copy of the Final executive summary only.

ATTACHMENT 8.10
INTERIM REVIEW COMMENTS

US ARMY ENGINEER DISTRICT, MOBILE
PO BOX 2288
Mobile, Alabama, 36628-0001

Fax Cover Sheet

DATE: February 23, 1996 **TIME:** 11:19 AM

TO: Ted Gross, CENAB-EN-MP
USAED, Baltimore, MD
PHONE: (410) 962-4577
FAX: (410) 962-0917

FROM: Anthony W. Battaglia, CESAM-EN-DM
USAED, Mobile, AL
PHONE: (334) 690-2618
FAX: (334) 690-2424

RE: EEAP, FY95 LES, Peak Demand Study, Aberdeen Proving Ground, MD

Number of pages including cover sheet: 2

Message

Our comments on the subject study are attached. Hope all goes well with the review meeting. Please be sure that we receive the minutes of the review meeting.

We are looking forward to receiving the prefinal submittal.

Tony Battaglia

Demand Reduction Analysis for Aberdeen Proving Grounds, Maryland. Interim Submission.

CESAM-EN-DE, ELECTRICAL COMMENTS

22 Feb 96
Wallace/694-4068

1. The Interim Submission only included the first four sections of Volume 1 and draft discussions on the first two of the seven Energy Conservation Opportunities identified on page 1-2. The AE should assure inclusion of all missing sections and backup information in the Prefinal Submittal. Also, assure inclusion of the proper information into all blank spaces within the document.

2. Data for Submeters 22 and 23, June through September 1995, page 4-6 is missing. Please provide information.

3. Provide attachments for calculations of incremental cost and monthly electric bills referenced on page 4-7, last line.

4. The basis for the potential savings produced by owning and maintaining the 115 kV-34.5 kV transformation is the elimination of the distribution demand charge currently imposed on the 34.5 kV metering. The rate structure supposedly shows this distribution demand charge. The AE should assure that the Prefinal Submittal contains the rate structure information, currently omitted in this submittal. Also, the AE should clearly prove, with the information provided, that elimination of the distribution demand charge materializes with the construction of a new substation.

5. The AE should investigate and discuss any potential incentives offered by Baltimore Gas and Electric Company for reductions in electrical demand. Page 2-2 indicates that information on Incentive Programs has been provided to the AE.

PROJECT REVIEW COMMENTS DATE 2-22-96

Project: Electrical Demand Reduction Study, Aberdeen Area.

Location: Aberdeen Work Request: 04FF

Type of Action: Electrical

Item no.	Dwg.no. or par no.	Comments
1.	Report	Page 2-7, Para 2.4: Provide a copy of the model performance and actual Bills. Table 4.2.2: Provide the formula being used to calculate the energy cost. General: The study shall be performed for the following options: a) Aberdeen Area fed from existing two 34Kv feeders. b) Aberdeen Area fed by changing the two existing 34KV feeders to 115kV. c) Aberdeen Area fed by increasing the capacity of existing 115KV system to 50MVA

Date: 12 February 1996

Rexel Gallamoza, Mech/Elec Branch

Subject: Electrical Demand Reduction Analysis

Review Comments

1. Study should take into account the upgrade of Substation 18 which will utilize the existing 110 kV sub-transmission line to Building 120. The design will be completed mid-March time frame.

2. Substation 18 at Building 120 will be funded with Maintenance and Repair money which is readily available since the existing substation equipment is failing. Per discussion with AMC Construction Division personnel, the chances of getting a project through ECIP are very slim. MCA dollars for construction of a new substation between Harford Substation and Substation A is very doubtful in the near future. Explain other alternatives to have project funded.

3. If the Substation 18 project is completed, then how should the proposed substation project be modified.

4. The cost for two having transformers must also include relocating Substation B, unless the made underground or the conductors are run back to the station. The preference is to keep the switches in sight.

eeap-interim

File: C:\ARMS\PUBLIC\APG.DBF

Num	Name	Office	Page/Sheet	Discipline	Rm/Detail
1	GROSS	NAB-EN-MP	-	GEN	GEN

Please correct typo's, spelling, capitalization.

Num	Name	Office	Page/Sheet	Discipline	Rm/Detail
2	GROSS	NAB-EN-MP	1-3	GEN	GEN

Schedule for completion of contract should be included.

Num	Name	Office	Page/Sheet	Discipline	Rm/Detail
3	GROSS	NAB-EN-MP	1-4	GEN	GEN

Volume 2 should include correspondence/discussion with BG&E and relevant (not all) contacts/letters with Government personnel.

Num	Name	Office	Page/Sheet	Discipline	Rm/Detail
4	GROSS	NAB-EN-MP	2-5	GEN	ECO'S

Selection of candidate ECO's should be noted as being made by APG and the Corps.

Num	Name	Office	Page/Sheet	Discipline	Rm/Detail
5	GROSS	NAB-EN-MP	2-6	GEN	ECO'S

A discussion of why candidate ECO's were not selected should be included.

Num	Name	Office	Page/Sheet	Discipline	Rm/Detail
6	GROSS	NAB-EN-MP	2-15	GEN	CRITERIA

If MCA criteria is being followed, it should be reflected in ECO-1 Cost Estimate and LLCID. Refer to subsequent comments.

Num	Name	Office	Page/Sheet	Discipline	Rm/Detail
7	GROSS	NAB-EN-MP	-	GEN	ECO-1

Escalation rates for FY 1996 and beyond is 3.00%. A differential escalation rate for utilities could possibly be justified based upon local historic data. FY94 escalation rate is not suitable and differs from the 3.00% Any and all inflation, escalation, differential escalation, and inflation factors should be clearly stated. As these would probably be the same for any ECO, could be included along with other criteria on p2-16.

Num	Name	Office	Page/Sheet	Discipline	Rm/Detail
8	GROSS	NAB-EN-MP	-	GEN	ECO-1

LCCA is given for 20 years. Assumption at p2-15 is 25 years. By TM 5-811-1, a life cycle of 25 years should be used.

Num	Name	Office	Page/Sheet	Discipline	Rm/Detail
9	GROSS	NAB-EN-MP	-	GEN	ECO-1

Criteria for redundancy is included in TM 5-811-1. A safe assumption for this study is that if no redundant supply exists, none should be included for the ECO. Reliability should not be confused with redundancy, i.e. consideration should be given to construction of two substations for reliability purposes.

eeap-interim

Num	Name	Office	Page/Sheet	Discipline	Rm/Detail
10	GROSS	NAB-EN-MP	-	GEN	ECO-1

As a recurring cost of $15,000 is assigned for maintenance of the new electrical system, assumption of recurring savings should be included. Annual O&M cost for the existing system should be available from the Engineering Resource Management Division on a unit cost (or work order) basis. If not, data for DA avarage cost is available. Assumption seems fitting that O&M cost for a new system will be lower than that for an older, non-standardized system.

Num	Name	Office	Page/Sheet	Discipline	Rm/Detail
11	GROSS	NAB-EN-MP	-	GEN	ECO-1

Will any factors besides O&M and distribution demand charge have an economic effect (improved system efficiency, reduced transmission loss). If so, would it be possible to justify any recurring savings?

Num	Name	Office	Page/Sheet	Discipline	Rm/Detail
12	GROSS	NAB-EN-MP	DWG-	GEN	ECO-1

If the transformer is to be Government owned, it should be sited on Government property or need for Real Estate coordination/action referenced in the narrative.

Num	Name	Office	Page/Sheet	Discipline	Rm/Detail
13	GROSS	NAB-EN-MP	-	GEN	ECO-1

As a note, the transformer/distribution must be constructed so as to support a future UMCS (TM 5-811-1). Though this should be a negligible construction cost, it will have a significant contracting (use of proprietary item) impact.

Num	Name	Office	Page/Sheet	Discipline	Rm/Detail
14	GROSS	NAB-EN-MP	-	GEN	ECO-1

APG Installation Design Guide (IDG) specifies that utilities will be underground. Project will require coordination with Master Planning. This statement does not mandate underground distribution but allows for underground without receiving waiver required by AR and TM.

eeap-interim

Num	Name	Office	Page/Sheet	Discipline	Rm/Detail
15	GROSS	NAB-EN-MP	-	GEN	ECO-1

Cost Estimate. Definition/clarification should be provided as to what is included under FRINGES, OVERHEAD & PROFIT, CONTINGENCY, SUPERVISION and ENGINEERING as semantics will have impact on cost. Is the estimate for construction cost or project cost. Based upon the assigned percentages I would assume these are project, not construction contract costs.

It is difficult to determine whether OVERHEAD refers to home office, site overhead (trailer, phones, G&A), taxes, overhead on project administration, or all of the above. Project overhead for MCA is normally combined with inspection and supervision (SIOH) at 6.00%. Profit will not exceed 13.00% and a project of this size would typically have about 8.00% profit. CONTINGENCY on a MCA new construction project would be 5.00% and 10.00% for maintenance and repair. Is this CONTINGENCY for uncertainty in cost based upon the level of development? If so, by MCA standards, 5.00% or 10.00% would be used. Separate line for SUPERVISION indicates this is project cost, not estimated construction contract (ECC). What is the 15% ENGINEERING? Public law limits design to 6.00% of the ECC, while design analysis, cost estimation, topo, etc would typically add 2 to 3%. Is bonding cost included for the estimate? Please provide definitions/clarification.

ATTACHMENT 8.13
INTERIM REVIEW RESPONSES

INTERIM REVIEW COMMENTS

DRAFT RESPONSE

ELECTRICAL DEMAND REDUCTION STUDY

at

ABERDEEN PROVING GROUND
Baltimore, Maryland

prepared by

ENTECH ENGINEERING, INC.
4 South Fourth Street
Reading, Pennsylvania 19603

610-373-6667

March 1, 1996

Interim Review Comments and Responses
Draft Response

The following addresses the review comments (NAB-EN-MP - Gross) for the Electrical Demand Reduction Study at Aberdeen Proving Ground along with our responses.

Comment		Response	
1.	Please correct typo's, spelling, capitalization.	1.	Work edits will continue until final submission.
2.	Schedule for completion of contract should be included.	2.	Completion Schedule is as follows: Interim Meeting: 3-4-96 Submission of Pre-Final Report: 6 weeks after interim meeting or receipt of requested data
3.	Volume 2 should include correspondence/discussion with BG&E and relevant (not all) contacts/letters with Government personnel.	3.	Documentation of BG&E correspondence will be furnished.
4.	Selection of candidate ECO's should be noted as being made by APG and the Corps.	4.	Agreed.
5.	A discussion of why candidate ECO's were not selected should be included.	5.	Refer to comment 4 and provide same for inclusion.
6.	If MCA criteria is being followed, it should be reflected in ECO-1 Cost Estimate and LLCID. Refer to subsequent comments.	6.	MCA criteria is the path selected in prompting the LLCID Program.
7.	Escalation rates for FY 1996 and beyond is 3.00%. A differential escalation rate for utilities could possibly be justified based upon local historic data. FY94 escalation rate is not suitable and differs from the 3.00%. Any and all inflation, escalation, differential escalation, and inflation factors should be clearly stated. As these would probably be the same for any ECO, could be included along with other criteria on p2-16.	7.	LLCID escalation criteria is used in all ECO's considered.
8.	LCCA is given for 20 years. Assumption at p2-15 is 25 years. By TM 5-811-1, a life cycle of 25 years should be used.	8.	Twenty-five year LCCA on page 2-15 was incorrect. Twenty year projections are recommended by 10 Jan 94 ECIP Guidance Letter, Appendix B.

Comment	Response
9. Criteria for redundancy is included in TM-5-811-1. A safe assumption for this study is that is no redundant supply exists, none should be included for the ECO. Reliability should not be confused with redundancy, i.e. consideration should be given to construction of two substations for reliability purposes.	9. Although BG&E equipment probably provides redundancy, semantics will be revised so the reliability aspect can be considered independent of TM 5-811-1.
10. As a recurring cost of $15,000 is assigned for maintenance of the new electrical system, assumption of recurring savings should be included. Annual O&M cost for the existing system should be available from the Engineering Resource Management Division on a unit cost (or work order) basis. If not, data for DA average cost is available. Assumption seems fitting that O&M cost for a new system will be lower than that for an older, non-standardized system.	10. Existing electrical equipment in this ECO is currently maintained by BG&E. New costs were projected from Entech's experience.
11. Will any factors besides O&M and distribution demand charge have an economic effect (improved system efficiency, reduced transmission loss). If so, would it be possible to justify any recurring savings?	11. There are no other recurring savings. Transformation losses have been incorporated.
12. If the transformer is to be Government owned, it should be sited on Government property or need for Real Estate coordination/action referenced in the narrative.	12. Transformer is envisioned to be on property presently owned by the Government.
13. As a note, the transformer/distribution must be constructed so as to support a future UMCS (TM 5-811-1). Though this should be a negligible construction cost, it will have a significant contracting (use of proprietary item) impact.	13. The cost of including provisions for a UMCS system with new construction is less than the cost of retrofitting the existing construction with equivalent components. Therefore, this project will remain mute on the subject, unless such a posture would distort our findings.
14. APG Installation Design Guide (IDG) specifies that utilities will be underground. Project will require coordination with Master Planning. This statement does not mandate underground distribution but allows for underground without receiving waiver required by AR and TM.	14. In absence of a mandate, we will continue to suggest utility locations on the basis of good engineering practice.

Comment	Response
15. Cost Estimate. Definition/clarification should be provided as to what is included under FRINGES, OVERHEAD & PROFIT, CONTINGENCY, SUPERVISION and ENGINEERING as semantics will have impact on cost. Is the estimate for construction cost of project cost. Based upon the assigned percentages I would assume these are project, not construction contract costs. It is difficult to determine whether OVERHEAD refers to home office, site overhead (trailer, phones, G&A), taxes, overhead on project administration, inspection and supervision (SIOH) at 6.00%. Profit will not exceed 13.00% and a project of this size would typically have about 8.00% profit. CONTINGENCY on a MCA new construction project would be 5.00% and 10.00% for maintenance and repair. Is this CONTINGENCY for uncertainty in cost based upon the level of development? If so, by MCA standards, 5.00% or 10.00% would be used. Separate line for SUPERVISION indicates this is project cost, not estimated construction contract (ECC). What is the 15% ENGINEERING? Public law limits design to 6.00% of the ECC, while design bonding cost included for the estimate? Please provide definitions/clarification.	15. Section 2 - Methodology will be supplemented to clarify the cost data.

The following addresses the review comments (CESAM-EN-DE, Electrical Comments - Wallace) for the Electrical Demand Reduction Study at Aberdeen Proving Ground along with our responses.

Comment	Response
1. The Interim Submission only included the first four sections of Volume 1 and draft discussions on the first two of the seven Energy Conservation Opportunities identified on page 1-2. The AE should assure inclusion of all missing sections and backup information in the Prefinal Submittal. Also, assure inclusion of the proper information into all blank spaces within the document.	1. Prefinal submission will include items requested.
2. Data for Submeters 22 and 23, June through September 1995, page 4-6 is missing. Please provide information.	2. Information cited as missing has not been furnished by Aberdeen Proving Ground.
3. Provide attachments for calculations of incremental cost and monthly electric bills referenced on page 4-7, last line.	3. Incremental cost calculations will be furnished with the pre-final submission.
4. The basis for the potential savings produced by owning and maintaining the 115 kV-34.5 kV transformation is the elimination of the distribution demand charge currently imposed on the 34.5 kV metering. The rate structure supposedly shows this distribution demand charge. The AE should assure that the Prefinal Submittal contains the rate structure information, currently omitted in this submittal. Also, the AE should clearly prove, with the information provided, that elimination of the distribution demand charge materializes with the construction of a new substation.	4. Rate structure to be included in pre-final submittal. Also, the rate structure states: "Transmission Service: For customers served at 115kV and above, the distribution demand charge does not apply."
5. The AE should investigate and discuss any potential incentives offered by Baltimore Gas and Electric Company for reductions in electrical demand. Page 2-2 indicates that information on Incentive Programs has been provided to the AE.	5. Incentive programs are the basis for several ECO's.

The following addresses the review comments for the Electrical Demand Reduction Study at Aberdeen Proving Ground along with our responses.

Comments	Responses
1. Page 2-7, Para 2.4: Provide a copy of the model performance and actual bills.	1. Copy of the model performance and actual bills will be included with next submission.
2. Table 4.2.2: Provide the formula being used to calculate the energy cost.	2. Summary of incremental cost calculations will be furnished with next submission.
3. General: The study shall be performed for the following options: a. Aberdeen Area fed from existing two 34kV feeders. b. Aberdeen Area fed by changing the two existing 34kV feeders to 115kV. c. Aberdeen Area fed by increasing the capacity of existing 115kV system to 50 MVA.	3. The work requested seems to be beyond the scope of this study. We understand the comment to request review of changes to the distribution systems capacity, rather than efforts to reduce demand cost.

Interim Review Comments and Responses
Draft Response

The following addresses the review comments (Rexel Gallamoza, Mech/Elec Branch) for the Electrical Demand Reduction Study at Aberdeen Proving Ground along with our responses.

Comments	Responses
1. Study should take into account the upgrade of Substation 18 which will utilize the existing 110 kV sub-transmission line to Building 120. The design will be completed mid-March time frame.	1. Information concerning upgrade of substation has been collected during interviews, considered, and findings documented. Advance copies of our findings were released to APG to aid in their consideration of the proposed project. For Entech to rework their efforts in this area because of changed conditions may be a revision to the agreed upon scope.
2. Substation 18 at Building 120 will be funded with Maintenance and Repair money which is readily available since the existing substation equipment is failing. Per discussion with AMC Construction division personnel, the chances of getting a project through ECIP are very slim. MCA dollars for construction of a new substation between Harford Substation and Substation A is very doubtful in the near future. Explain other alternatives to have project funded.	2. A/E has no control of project funding. We can prepare documentation subject to the guidelines of a particular funding but do not assure its availability. Documentation furnished under this work order is to be formatted per ECIP Guidelines.
3. If the Substation 18 project is completed, then how should the proposed substation project be modified.	3. If substation 18 project, as we understand it, it completed, ECO-2 and 3 should not be considered.
4. The cost for two having transformers must also include relocating Substation B, unless the made underground or the conductors are run back to the station. The preference is to keep the switches in sight.	4. We do not understand the need to relocate substation B. We do concede that the visual connections between substations may not improve over present conditions and conductor routings must still contend with a significant highway but the construction of a new 115-34-5kV substation does not require relocation of either 34-5 switches.

ATTACHMENT 8.14
INTERIM REVIEW MEETING MINUTES

INTERIM REVIEW MEETING MINUTES

PROJECT:	Aberdeen Proving Ground Electrical Demand Reduction Study Entech #4130.06
MEETING DATE:	March 4, 1996 Aberdeen Proving Ground EPSD
MINUTES ISSUE DATE:	March 5, 1996
ATTENDEES:	Ted Gross, CENAB-EN-MD Raj Dillon, EPSD (part-time) Dick Lohr, EPSD/M/E Br (part-time) Gurcharan Singh, Mech, Elect. Br/EPSD (part-time) Rex Gallamoza, EPSD/Mech/Elec Br Gary Testerman, EPSD/Energy Manager Dwight Haldeman, Entech Engineering Inc. Jeff Pitzer, Entech Engineering Inc. Scott Barndt, Entech Engineering Inc.

---

1. The discussion began with a briefing of the posts current position.

    a. A separate study is considering the potential of privatizing Aberdeen's electrical distribution system from the Hartford substation to each building. BG&E is assumed to be the vendor. Such a change could revise the rate into a uniquely structured primary account or each "building" as a separate account.

    b. The proposed construction project at Building 120 has been changed from 115 to 13200 with service to a limited area to 115 to 34-5 with interconnections to handle the loads associated with the present Substation B load. Further upgrades to this substation would permit feeding the entire base from this substation permitting the conductors are adequately sized.

c. The two issues above were considered with Entech ECO #1 (construction of a primary transformer adjoining BG&E's Harford Substation). EPSD will collect additional information prior to agreeing upon a position.

2. Entech reviewed the comments received about the interim report, presented a response (draft document distributed) and collected the following concerns:

   a. Most recent LLCID escalation criteria to be used
   b. Any demand side management programs offered by BG&E to be reviewed

3. Entech reviewed a draft of ECO's 1-16 (draft document distributed) and collected the following comments:

a.	ECO-1	payback for 2 transformers is 6.6 years
b.	ECO-6	consider using electronic devices rather than manual labor for start-ups
c.	ECO-16	consider 4 day weeks with Friday as down time

4. The Corp and Aberdeen made the following decisions:

Recommend	**Implementation**
ECO-1	ECIP
ECO-4	No cost/low cost
ECO-5	ECIP
ECO-6	No cost/low cost
ECO-9	No cost/low cost

Not recommended

ECO-2	
ECO-3	O&M project by others
ECO-7	Reserve for future consideration
ECO-8	Reserve for future consideration
ECO-10	No payback
ECO-11	Excessive risk
ECO-12	No payback
ECO-13	Reserve for future project
ECO-14	Reserve for future project

Open

ECO-15
ECO-16

The above minutes reflect the writer's interpretation of the meeting events and discussions. Should there be any corrections which are deemed to be required to these minutes, please send a copy of your suggested corrections to the undersigned by March 12, 1996. Receiving no corrections, these minutes shall stand as the meeting record.

Respectfully submitted,

Dwight E. Haldeman
Project Manager

DEH:mjs

ATTACHMENT 8.15
TELEPHONE CONVERSATION MINUTES AND COMMENTS

ENTECH
ENGINEERING, INC.

Telephone and Conference Memorandum

By: Dwight Haldeman
Project No.: 4130.06
Person(s): Ted Gross

Date: April 8, 1996
Phone Code: 066
Representing: BCOE

Title: Masterplanning
Telephone No: SD001
Subject: BGE invoice errors

Fax No.:

NOTES

The invoice errors have been reported to BGE. No resolution to-date. Entech may assume that the invoices were incorrect and will complete the study on that basis.

Record of Telephone Conversation

Date: 3-28-96
Parties Keith Brock - Baltimore Gas and Electric Co.
Dwight Haldeman - Entech Engineering

Discussion:

Requested copies of all the Primary rate riders to assure our records are complete and to confirm that we have full text for the riders under consideration. Confirmed there are no riders for ice storage systems. There are potential opportunities for rebates for ice storage studies.

Requested new tariff sheets . Billing information has been extracted from the bills to-date and we want to confirm our understandings. Portions of Aberdeen-BG&E relationship are subject to a 1950's contract.

Discussed Demand side management programs available from BG&E. Other than the radio controlled cycling of residential air-conditioning equipment, BG&E does not get involved in the active management of demand.

Reviewed understanding of Curtailment rider, option two. Aberdeen has been accepted for consideration into this program. Should Aberdeen construct a 5000kw generator to meet the curtailment specifications listed, they would receive a reduction in the demand rate for the entire year.

Requested copy of BG&E's: *Customer Owned Substation Guidelines.*

Discussed possibilities of getting a copy of OCT 93, OCT 94, and NOV 93 Aberdeen bills. BG&E does not have these bills online but can retrieve from their archives.

ATTACHMENT 8.16
PRE-FINAL REVIEW COMMENTS

95% REVIEW COMMENTS

DEMAND REDUCTION STUDY

at

ABERDEEN PROVING GROUNDS
Aberdeen, Maryland

prepared by

ENTECH ENGINEERING, INC.
4 South Fourth Street
Reading, Pennsylvania 19603

610.373.6667

Entech #4130.06

95% Review Comments and Responses to Demand Reduction Study
Aberdeen Proving Grounds, Aberdeen, Maryland

The following addresses the review comments for the Demand Reduction Study at Aberdeen Proving Grounds. Responses to review comments are organized by Reviewer. All review comments received are attached for your convenience.

Reviewer: Ted Gross CENAB-EN-MP

Date of Review: 22 May 1996

Comment	Response
1. No comments	1. No response required

95% Review Comments and Responses to Demand Reduction Study
Aberdeen Proving Grounds, Aberdeen, Maryland

The following addresses the review comments for the Demand Reduction Study at Aberdeen Proving Grounds. Responses to review comments are organized by Reviewer. All review comments received are attached for your convenience.

Reviewer: Wallace/694-4058

Date of Review: 22 May 1996

Comment	Response
1. It appears that lighting retrofits (utilizing T-8 lamps and electronic ballasts) were excluded from the scope of work; page A-4, section 8; as an energy saving opportunity. With 13 million square feet on Post, it should be noted that this energy saving opportunity should be investigated, if not in this study, maybe in another.	1. A/E response not required. However, it is our understanding that considerable lighting retrofits have been undertaken on Post and are expected to continue through a performance contract with the electric utility.
2. It does not appear that power factor correction energy saving opportunities were investigated. Provide explanation.	2. Power factor is not an element of the utility's rate structure. Consequently, there is no financial incentive for the customer to make corrections. In absence of a financial incentive, the Government programs will not fund any corrections.
3. Suggest that sub-section dividers be included within Section 8 to make it easier to find information.	3. Comment noted.

95% Review Comments and Responses to Demand Reduction Study
Aberdeen Proving Grounds, Aberdeen, Maryland

The following addresses the review comments for the Demand Reduction Study at Aberdeen Proving Grounds. Responses to review comments are organized by Reviewer. All review comments received are attached for your convenience.

Reviewer: Rex Gallamoza

Date of Review: 5 June 1996

Comment	Response
1. P. 3-1, Par. 3.2, Change " ...US Route 40..." to " ...US Route 715..."	1. Requested change made.
2. P. 5-14, Substation 6 had a bad tap changer during time of demand readings. The substation was de-energize and had its feeders switched over to Substation 9.	2. Paragraph added to the end of Section 5 to reinforce that these conclusions are based on the "snapshot" metering data. References will be made to the status of the substations described in these review comments.
3. P. 5-15, Substation 1 was used to carry the loads from Substations #3, #5, and #13. Substations 13 had some of its load applied from a portable substation. This load transformer was at Substations #5 and #13 were damaged and were not in use. Substation #3 was being rebuilt to supply a 13.2 kV distribution voltage.	3. Paragraph added to the end of Section 5 to reinforce that these conclusions are based on the "snapshot" metering data. References will be made to the status of the substations described in these review comments.
ECO-1 4. The new substation should also include the third feeder that is routed underground from the Harford Substation to the New ARL Facility.	**ECO-1** 4. The design of the new substation should include the ARL feeder. However, it is counterproductive for this report to include costs for future loads while attempting to demonstrate savings of existing demand.

Comment	Response
5. For operations, maintenance, and reliability, the new substation must use a "Breaker and a Half" arrangement. The estimate will need to be modified as well as the one line diagram.	5. The station arrangement proposed is valid. Should the "Breaker and a Half" arrangement be considered more desirable, the "order of magnitude" change to the findings would be: • Cost: From $4,100,000 to $4,250,000 • Payback: From 7.0 to 7.25 years • SIR: From 1.9 to 1.8
6. Using the station arrangement stated in Comment #6 and the addition of the third feeder mentioned in Comment #4, a spare feeder position will result in the new substation. Again, the estimate will need to be modified as well as the one line diagram.	6. The addition of the third feeder and the request to utilize a "Breaker and a Half" or other deviations to the concept are more appropriately introduced as criteria for a design project rather than supplements to an energy conservation opportunity.
7. The 30 MVA transformers will become a reliability issue and will also affect growth. The transformers should be reasonably sized for continued use the next 20 years and for emergency operations.	7. The transformer is sized based on historical peak load data with 50% spare capacity added.
8. The estimate should include the cost for Baltimore Gas and Electric or a private contractor to operate and maintain the 115 kV equipment, since the DPW will only work on 38 kV equipment.	8. The ECO includes the sum of $15,000.00 per year for preventive maintenance.
ECO-1A 9. Same comment as before, the estimate should include the cost for Baltimore Gas and Electric or a private contractor to operate and maintain the 115 kV equipment, since the DPW will only work on 38 kV equipment.	**ECO-1A** 9. The ECO includes the sum of $15,000.00 per year for preventive maintenance.
10. To improve reliability, what about reserving capacity at the Harford Substation through an agreement with BGE and installing tie lines.	10. The scope of this study does not include participation in the negotiations with BG&E or others. There are many beneficial positions that can be reached as these concepts move towards reality. The reserving capacity suggestion is excellent and should be pursued in discussions with the utility.

Comment	Response
ECO-2 11. The title is a deceiving.	**ECO-2** 11. Comment noted.
12. A dual voltage transformer, 115/13.8/7.9x4.16/2.4 kV, delta-wye, needs to be specified since the planned upgrade for the area is 13.2 kV. Or, the project should be coordinated with the 13.2 kV upgrade. The estimate will need to be adjusted accordingly.	12. We were unaware of the referenced upgrade. The incentive for this ECO is the availability of the existing 115 kV - 4.16 kV transformer. To utilize this existing asset and capture the beneficial rate, it is essential that the 4.16 kV distribution voltage be used. This is the motive for the new conductors to the load side (4.16) of existing Substations #4 and #9. Should the conversations evolve to where replacing the existing transformer is considered, we would argue that ECO-1, 1A, or 3 are more appropriate considerations.
13. To eliminate cost, why even run feeders from Substation 18 to Substations #4 and #9. The lines can be connected on the overhead distribution system. This will also make it easier to convert to 13.2 kV. Reclosers and sectionalizers will need to be implemented if the substations are eliminated but this is cheaper than re-building two substations with metal-clad switchgear.	13. We were unaware of the referenced upgrade. The incentive for this ECO is the availability of the existing 115 kV - 4.16 kV transformer. To utilize this existing asset and capture the beneficial rate, it is essential that the 4.16 kV distribution voltage be used. This is the motive for the new conductors to the load side (4.16) of existing Substations #4 and #9. Should the conversations evolve to where replacing the existing transformer is considered, we would argue that ECO-1, 1A, or 3 are more appropriate considerations.
14. What does the circled "M" represent on the one line diagram?	14. A meter.
ECO-4 15. Do the fuel tanks for the existing generators need to be upgraded to increase capacity?	**ECO-4** 15. The consumption of fuel oil was estimated at 1280 gal/yr or 107 gal/day or roughly 53 gal/day/generator. We did not confirm the actual size of the tanks but feel quite confident that reasonable capacity exists.

Comment	Response
ECO-5 16. Include cost for contractor to operate and maintain equipment.	**ECO-5** 16. These generators need to be available for service, when determined by BGE, for 10 hours a day; 12 days a year. Provisions for remote, automatic activation have been included in the cost estimate and $35,000.00 of preventive maintenance is included annually.